

Washington State

Actuarial Valuation Report

2002

By the Office of the State Actuary
Prepared In: October 2003

Actuarial Valuation Report 2002

$u = \frac{1}{4} = \log_{10} 28' + 2$

For the golden core $N = 17$ we have

the golden number $v = 17$. The distance $(q) = r'$; or we have $N = 17$.

The packages. We have

$\log \cos \frac{1}{2}v' = \log r'$

likewise

$\log c - \log 16 =$

$18^9 - 18^9 \cdot 6960002$

$E = \frac{2}{0.4966525} = 2,$

$c = 15$

$P = 26.$

$u' = 26.$

$v' = 26.$

$u' = 26.$

$v' = 26.$

Report Prepared by

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A special thank you to Kelly Burkhart and Christi Steele for all their hard work and efforts in producing this report.

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WASHINGTON STATE LEGISLATURE

Office of the State Actuary

Actuarial Valuation Report (AVR)

As of September 30, 2002

October 2003

As required under Chapter 41.45 RCW, this report documents the results of an actuarial valuation of the following Washington State retirement systems:

- Public Employees Retirement System (PERS);
- Teachers Retirement System (TRS);
- School Employees Retirement System (SERS);
- Law Enforcement Officers and Fire Fighters Retirement System (LEOFF); and
- Washington State Patrol Retirement System (WSP).

The primary purpose of this valuation is to determine contribution requirements for the systems listed above as of the valuation date September 30, 2002. The report is organized in the following four sections:

- Summary of Key Results
- Actuarial Exhibits
- Participant Data
- Appendices

The Summary of Key Results section provides a high-level executive summary of the valuation results for all systems combined. The remaining sections of the report provide detailed actuarial asset and liability information for each system and plan separately. The Appendix provides a summary of the principal actuarial assumptions and methods, summary of the major plan provisions, age-service distributions, historical data and a glossary of actuarial terms used throughout this report.

We encourage you to submit any questions you might have concerning this report to our regular or e-mail address below. We also invite you to visit our website (<http://osa.leg.wa.gov>) for further information regarding the actuarial funding of the Washington State retirement systems.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew M. Smith".

Matthew M. Smith
State Actuary

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Summary of Key Results

$L = \frac{1}{4} = \log_{10} 28' + 2 + 0.0684649 + 2$

For the golden core $N = 17$.
Hence $v = 0.81600$.

The mean distance (\bar{q}) = r' ; cos. $\frac{1}{2}v'$, or
log. cos. $\frac{1}{2}v'$.

Otherwise log. r' = $\log \frac{1}{2} - \log v$.

$$\log \cos \frac{1}{2}v' = \log \frac{1}{2} - \log v$$

$$= \log \frac{1}{2} - \log 0.81600$$

$$= \log 0.6960002$$

$$= 0.4966525$$

$$= 2,$$

$$= 2,$$

$$= 2,$$

$$= 2,$$

$$= 2,$$

$$= 2,$$

$$= 2,$$

Now the constant elements of the orbit are
as follows:

A close approximation of the perihelion distance is given by

$P = \sqrt{\frac{2(1 - e^2)}{1 + e^2}}$

where $E = \sqrt{\frac{2(1 - e^2)}{1 + e^2}} - 2$.

For the parihelion have $E = 26.$

SUMMARY OF KEY RESULTS

Contribution Rates

Member and employer contribution rates determined from the actuarial valuation are expressed as a percentage of salary and summarized below along with comparable rates from the previous valuation. See the *Actuarial Exhibits* section of this report for the development of these rates.

Contribution Rates				
	Plan 1		Plan 2/3	
	2002	2001	2002	2001
PERS				
Member*	6.00%	6.00%	2.63%	1.41%
Total Employer	3.78%	2.05%	3.78%	2.05%
TRS				
Member*	6.00%	6.00%	1.71%	1.20%
Total Employer	3.19%	2.22%	3.19%	2.22%
SERS				
Member*	N/A	N/A	2.49%	1.10%
Total Employer	N/A	N/A	3.64%	1.74%
LEOFF				
Member	0.00%	0.00%	6.41%	5.05%
Employer	0.00%	0.00%	3.84%	3.03%
Total State	0.00%	0.00%	2.57%	2.02%
WSP				
Member	2.00%	2.00%	N/A	N/A
Employer (State)	0.00%	0.00%	N/A	N/A

*Plan 3 members do not contribute to the defined benefit plan

Funding Policy

The funding policy of the Legislature is contained in Chapter 41.45 RCW - Actuarial Funding of State Retirement Systems. RCW 41.45.010 outlines the intent to achieve the following goals:

- To provide a dependable and systematic process for funding the benefits to members and retirees of the Washington State Retirement Systems;
- To continue to fully fund the retirement system plans 2 and 3, and the Washington State Patrol Retirement System, as provided by law;
- To fully amortize the total cost of PERS 1, TRS 1 and LEOFF 1, not later than June 30, 2024;

- To establish predictable long-term employer contribution rates which will remain a relatively constant proportion of the future state budgets; and
- To fund, to the extent feasible, benefit increases over the working lives of those members so that the cost of those benefits are paid by the taxpayers who receive the benefit of those members' service.

Although not codified in law as a policy, the Legislature has established an additional funding policy through consistent legislative practice over time:

- Employers are charged the same contribution rate, regardless of the plan in which employees hold membership (except for LEOFF).

Comments on 2002 Results

Short-term actuarial gains or losses occur when actual economic and demographic experience differs from what was assumed in the valuation. Actuarial gains will reduce contribution rates; whereas, actuarial losses will increase contribution rates. Under a reasonable set of actuarial assumptions and methods, actuarial gains and losses will offset over long-term experience periods.

Significant changes in plan provisions or actuarial assumptions and methods will also have an impact on contribution rates. Significant factors that impacted the results of this valuation include the following:

- Change in the asset valuation method; resulting in a decrease in contribution rates.
- The actual rate of investment return for the plan year was well below the assumed rate of 8%. Actual investment return was -6.50% (time weighted).
- New entrants continue to exert a modest upward adjustment on contribution rates; and
- A significant gain or loss can occur when actual salary experience is different from what is assumed. Actual experience for 2002 varied by system and plan.

Please see the table, *Actuarial Gains/Losses*, in the *Actuarial Exhibit* section of this report for detailed gain and loss information by each individual system.

Estimated Contribution Rates for 05-07

Projected contribution rates are expected to increase in the near future. The actual rate of investment return for the 2003 plan year through August 31, 2003 was 13.6%. The actuarial assumed rate of investment return is 8%. This generates an investment gain for the plan year, but is insufficient to completely offset the losses of the previous three years.

If current assumptions, methods and major plan provisions are continued, the following member and employer contribution rates are projected for the next valuation cycle:

Estimated Contribution Rates for 05-07		
	Plan 1	Plan 2/3
PERS		
Member*	6.00%	3.33%
Total Employer	4.99%	4.99%
TRS		
Member*	6.00%	2.57%
Total Employer	4.69%	4.69%
SERS		
Member*	N/A	3.54%
Total Employer	N/A	5.20%
LEOFF		
Member	0.00%	7.50%
Employer	0.00%	4.50%
Total State	0.00%	3.00%
WSP		
Member	4.22%	N/A
Employer (State)	4.22%	N/A

*Plan 3 members do not contribute to the defined benefit plan

Rate would be effective July 1, 2005 for PERS, LEOFF, and WSP. September 1, 2005 for TRS and SERS.

Actuarial Liabilities

A summary of key measures of actuarial liability is shown below along with comparable information from last year's valuation. See the *Actuarial Exhibits* section of this report for a summary of actuarial liability by each individual system and plan. See the *Glossary* for a brief explanation of the actuarial terms.

Actuarial Liabilities		
(Dollars in millions)	2002	2001
All Systems		
Present Value of Fully Projected Benefits	\$51,126	\$48,907
Unfunded Actuarial Accrued Liability*	1,222	136
Present Value of Credited Projected Benefits	37,757	35,624
Valuation Interest Rate	8.00%	8.00%

*For PERS 1, TRS 1 and LEOFF 1 at 9/30/2002

Assets

The combined market value of assets and actuarial (or smoothed) value of assets are shown below along with approximate rates of investment return. See the *Actuarial Exhibits* section of this report for a summary of assets by each individual system and plan as well as the development of the actuarial value of assets.

Assets		
(Dollars in millions)	2002	2001
All Systems		
Market Value of Assets	\$34,224	\$38,470
Actuarial Value of Assets	44,573	45,038
Contributions*	436	761
Disbursements	2,007	2,177
Return on Assets	(6.50%)	(12.01%)

*Employee and Employer

Funded Status

Several key measures of the combined systems' funded status are displayed below. *Assets from an individual qualified retirement plan may not be used to fund benefits from another plan.* This table, therefore, is provided for summarization purposes only. See the *Actuarial Exhibits* section of this report for a summary of funded status by each individual system and plan.

Funded Status		
(Dollars in millions)	2002	2001
All Systems		
a. Present Value of Credited Projected Benefits	\$37,757	\$35,624
b. Actuarial Value of Assets	44,573	45,038
c. Unfunded Liability (a-b)	(6,816)	(9,414)
d. Credited Projected Funded Ratio (b/a)	118%	126%

Participant Data

Participant data used in the actuarial valuation for the plan year ending September 30, 2002 are summarized below along with comparable information from last year's valuation. See the *Participant Data* section of this report for participant data summarized by each individual system and plan.

Participant Data		
	2002	2001
All Systems		
Active Members		
Number	286,232	283,430
Total Salaries (in millions)	\$12,079	\$11,465
Average Annual Salary	\$42,195	\$40,449
Average Attained Age	44.9	44.6
Average Service	10.0	9.9
Retirees and Beneficiaries		
Number	107,581	104,339
Average Annual Benefit	\$15,964	\$15,224
Terminated Members		
Number Vested	28,585	26,398
Number "Non-Vested"	94,150	94,618

Key Assumptions

Key economic assumptions used in the actuarial valuation are displayed below. These assumptions were unchanged from the previous year's valuation. See the *Appendix - Actuarial Assumptions and Methods* for a detailed listing of the actuarial assumptions used in this valuation.

Key Assumptions	
All Systems	
Valuation Interest Rate	8.00%
Salary Increase	4.50%
Inflation	3.50%
Growth in Membership*	1.25%

*0.90% in TRS

Actuarial Exhibits

$L = 4 = \log_{10} 28' - 22929^{\circ}25'23''5 + 0.0684649 + 2$

For the golden core $N = 17$ we have $N = 17$

mean distance (\bar{q}) = r' ; cos. $\frac{21}{2}v'$, or the packages we have $\bar{q}N^{25654}$

$$\log \cos \frac{21}{2}v' = \log \frac{982513670}{607086943} (N - 1)$$

$$\log \frac{16}{10} = \log \frac{96960002}{04966525} 2,$$

$$\log E = \frac{27}{2} = 2$$

$$P = \frac{1}{2} \text{ for } P = 1,$$

$$v' - u' = 26.$$

ACTUARIAL EXHIBITS

Actuarial Certification

This report documents the results of an actuarial valuation of the retirement plans defined under Chapters 41.26, 41.32, 41.35, 41.40 and 43.43 of the Revised Code of Washington. The primary purpose of this valuation is to determine contribution requirements for the systems listed above as of the valuation date September 30, 2002 and should not be used for other purposes.

The valuation results summarized in this report involve calculations that require assumptions about future economic and demographic events. We believe that the assumptions and methods used in the underlying valuation are reasonable and appropriate for the primary purpose stated above. The use of another set of assumptions and methods, however, could also be reasonable and could result in materially different results.

The assumptions used in the valuations for investment return, inflation, salary and membership growth were prescribed by the Legislature in 2001. Demographic assumptions were developed from the 1995-2000 experience study performed by the Office of the State Actuary. The Legislature was responsible for the selection of the actuarial cost and asset valuation methods. In our opinion, all methods, assumptions and calculations are reasonable and are in conformity with generally accepted actuarial principles and standards as of the date of this publication.

The Department of Retirement Systems provided member and beneficiary data. We have checked the data for reasonableness as appropriate based on the purpose of the valuation. The State Investment Board, Department of Retirement Systems and the State Treasurer provided financial and asset information. An audit of the financial and participant data was not performed. We have relied on all the information provided as complete and accurate. In our opinion, this information is adequate and substantially complete for purposes of this valuation.

By law, the unfunded actuarial accrued liability (UAAL) in PERS and TRS Plans 1 must be amortized by June 30, 2024 as a level percentage of projected system payroll. The projected payroll includes pay from PERS, SERS and TRS Plans 2/3 as well as projected payroll from future new members. As a result of this amortization method, dollar contributions to the Plan 1 UAAL will increase steadily as the amortization date approaches.

The asset smoothing method adopted during the 2003 legislative session (Chapter 11, Laws of 2003, E1) was intended to address the volatility of contribution rates under the aggregate funding method when used in combination with the existing asset allocation policy. The combination of the current asset smoothing method with any other funding method or asset allocation policy may not be appropriate. In our opinion, it may also be advisable to add a market value corridor with the current asset smoothing method. A market value corridor would ensure that the smoothed value of assets maintain a certain minimum and maximum relationship with the underlying market value of assets.

The gain-sharing benefit provisions of PERS and TRS Plans 1, PERS, TRS and SERS Plans 3 are not reflected in this valuation. The funding methodology and materiality of these provisions is currently under review. If it is determined that the gain-sharing benefit provisions represent a material liability to the plans, then the actuarial value of the benefit provisions must be reflected in the liabilities of the plans unless contrary to existing law.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.



Matthew M. Smith, EA, MAAA
State Actuary



Larry Risch, ASA, MAAA
Deputy State Actuary

Contribution Rates

Member and Employer Rate Summary				
	Plan 1		Plan 2/3	
	2002	2001	2002	2001
PERS				
Member *	6.00%	6.00%	2.63%	1.41%
Employer (Normal Cost)	2.63%	1.41%	2.63%	1.41%
Employer (Plan 1 UAAL)	1.15%	0.64%	1.15%	0.64%
Total Employer	3.78%	2.05%	3.78%	2.05%
TRS				
Member *	6.00%	6.00%	1.71%	1.20%
Employer (Normal Cost)	1.98%	1.50%	1.98%	1.50%
Employer (Plan 1 UAAL)	1.21%	0.72%	1.21%	0.72%
Total Employer	3.19%	2.22%	3.19%	2.22%
SERS				
Member *	N/A	N/A	2.49%	1.10%
Employer (Normal Cost)	N/A	N/A	2.49%	1.10%
Employer (PERS Plan 1 UAAL)	N/A	N/A	1.15%	0.64%
Total Employer	N/A	N/A	3.64%	1.74%
LEOFF				
Member	0.00%	0.00%	6.41%	5.05%
Employer	0.00%	0.00%	3.84%	3.03%
State (Normal Cost)	0.00%	0.00%	2.57%	2.02%
State (Plan 1 UAAL)	0.00%	0.00%	0.00%	0.00%
Total State	0.00%	0.00%	2.57%	2.02%
WSP				
Member	2.00%	2.00%	N/A	N/A
Employer (State)	0.00%	0.00%	N/A	N/A

*Plan 3 members do not contribute to the defined benefit plan

Development of Employer/State Rates

	PERS		TRS		SERS		LEOFF		WSP	
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1
a. Total Normal Cost	8.63%	5.26%	7.98%	3.69%	4.98%	0.00%	12.82%	(1.03%)		
b. Employee Normal Cost*	6.00%	2.63%	6.00%	1.71%	2.49%	0.00%	6.41%	2.00%		
c. Employer Normal Cost (a-b)	2.63%	2.63%	1.98%	1.98%	2.49%	0.00%	6.41%	0.00%		
d. Cost to Amortize UAAL		1.15%	1.15%	1.21%	1.21%	1.15%	0.00%	0.00%	0.00%	
e. Total Employer Contribution Rate (c+d)	3.78%	3.78%	3.19%	3.19%	3.64%	0.00%	3.84%**	0.00%		

*Plan 3 members do not contribute to the defined benefit plan

**The state pays 20% of the total normal cost for LEOFF 2. This reduces the total employer contribution rate from 6.41% to 3.84%

Development of Normal Cost Rates

(Dollars in millions)	PERS 2/3	TRS 2/3	SERS 2/3	LEOFF 2	WSP
a. Actuarial Present Value of Fully Projected Benefits	\$13,089	\$4,421	\$1,803	\$4,033	\$686
b. Valuation Assets	10,701	3,800	1,519	2,646	689
c. Unfunded Fully Projected Benefits (a-b)	2,388	621	284	1,387	(3)
d. Employer Gain-sharing Responsibility	0	68	0	N/A	N/A
e. Contributions to 2005	272	79	30	237	3
f. Adjusted Unfunded (c-d-e)	\$2,116	\$474	\$253	\$1,150	(\$6)
Present Value of Projected Salaries to Current Members (PVS)					
g. Plan 1 PVS	N/A	N/A	N/A	N/A	\$580
h. Plan 2 PVS	37,430	2,970	3,117	8,993	0
i. Plan 3 PVS	5,543	21,814	3,990	N/A	N/A
j. Weighted PVS (2g+2h+i)	\$80,402	\$27,755	\$10,223	\$17,987	\$1,159
k. Preliminary Normal Cost (2xf/j)	5.26%	3.42%	4.96%	12.78%	(1.03%)
l. Change due to change in plan provisions (Laws of 2003)	0.00%	0.00%	0.02%	0.04%	0.00%
m. 100% Normal Cost (k+l)	5.26%	3.42%	4.98%	12.82%	(1.03%)
n. 50% Normal Cost (mx50%)	2.63%	1.71%	2.49%	6.41%	(0.52%)
o. Employer Gain-sharing Responsibility (d/(h+i))	0.00%	0.27%	0.00%	N/A	N/A
p. Employee Contribution Rate (n)	2.63%*	1.71%*	2.49%*	6.41%**	2.00%***
q. Employer Contribution Rate (n+o)	2.63%	1.98%	2.49%	3.84%**	(3.03%)***
r. State Contribution Rate	N/A	N/A	N/A	2.57%**	N/A
s. Total Contribution Rate (p+q+r)	5.26%	3.69%	4.98%	12.82%	(1.03%)

Note: Totals may not agree due to rounding

*Plan 3 members do not contribute to the defined benefit plan

**LEOFF 2 rate: 50% Employee, 30% Employer, 20% State

*** WSP employees pay 50% of the total normal cost, but not less than 2%. The employer pays the excess (if any).

Amortization of the Plan 1 Unfunded Actuarial Accrued Liability (UAAL)

(Dollars in millions)	PERS 1	TRS 1	LEOFF 1
a. Actuarial Present Value of Fully Projected Benefits	\$12,532	\$10,209	\$4,338
b. Valuation Assets	10,757	9,366	5,095
c. Actuarial Present Value of Future Normal Costs	382	257	0
d. UAAL (a-b-c)	1,393	586	(757)
e. Expected UAAL Contributions to 2005	27	12	0
f. Remaining UAAL (d-e)	\$1,366	\$574	(\$757)
g. Present Value of Projected Salaries beyond 2005	\$118,847	\$47,354	\$15,013
h. Contribution Rate to Amortize the remaining UAAL (f/g)	1.15%	1.21%	(5.04%)*
i. Amortization Date	6/30/2024	6/30/2024	6/30/2024

Note: Totals may not agree due to rounding

*LEOFF 1 is fully funded so no UAAL contributions are required at this time

Actuarial Liabilities

Present Value of Fully Projected Benefits

(Dollars in millions)	PERS			TRS		
	Plan 1	Plan 2/3	Total	Plan 1	Plan 2/3	Total
Active Members						
Retirement	\$4,445	\$10,648	\$15,092	\$3,491	\$3,931	\$7,422
Termination	34	440	474	21	114	135
Death	31	93	124	16	46	63
Disability	40	92	133	13	5	17
Return of Contributions on Termination	17	271	289	1	7	8
Return of Contributions on Death	36	131	167	21	12	32
Portability	9	33	42	11	4	15
Uniform Cola	374	N/A	374	287	N/A	287
Total Active	\$4,985	\$11,709	\$16,694	\$3,860	\$4,119	\$7,979
Inactive Members						
Terminated	\$235	\$659	\$894	\$228	\$179	\$407
Service Retired	6,014	653	6,667	5,099	115	5,214
Disability Retired	107	40	162	90	4	95
Survivors	348	27	447	192	3	195
Uniform Cola	843	N/A	757	741	N/A	741
Total Inactive	\$7,547	\$1,380	\$8,927	\$6,350	\$302	\$6,652
Laws of 2003	\$0	\$4	\$4	\$0	\$1	\$1
2002 Total	\$12,532	\$13,093	\$25,625	\$10,209	\$4,422	\$14,631
2001 Total	\$12,244	\$12,428	\$24,672	\$10,050	\$4,024	\$14,074

Note : Totals may not agree due to rounding

Present Value of Fully Projected Benefits

(Dollars in millions)	(Continued)				
	SERS	LEOFF		WSP	
	Plan 2/3	Plan 1	Plan 2	Total	Plan 1
Active Members					
Retirement	\$1,528	\$438	\$3,704	\$4,143	\$364
Termination	118	1	82	84	1
Death	15	6	10	15	5
Disability	10	242	4	246	0
Return of Contributions on Termination	25	0	79	79	1
Return of Contributions on Death	10	2	50	52	1
Portability	5	0	4	4	0
Uniform Cola	N/A	N/A	N/A	N/A	N/A
Total Active	\$1,711	\$690	\$3,933	\$4,623	\$373
Inactive Members					
Terminated	\$54	\$12	\$52	\$65	\$3
Service Retired	35	1245	42	1287	295
Disability Retired	2	2027	4	2030	1
Survivors	1	364	2	366	14
Uniform Cola	N/A	N/A	N/A	N/A	N/A
Total Inactive	\$92	\$3,648	\$100	\$3,748	\$313
Laws of 2003	\$1	\$0	\$9	\$9	\$0
2002 Total	\$1,804	\$4,338	\$4,042	\$8,380	\$686
2001 Total	\$1,610	\$4,244	\$3,652	\$7,896	\$655

Note : Totals may not agree due to rounding

Present Value of Credited Projected Benefits						
(Dollars in millions)	PERS			TRS		
	Plan 1	Plan 2/3	Total	Plan 1	Plan 2/3	Total
Active Members						
Retirement	\$3,690	\$4,844	\$8,534	\$2,942	\$1,690	\$4,632
Termination	27	236	263	18	58	75
Death	25	44	70	14	20	34
Disability	33	47	81	11	2	13
Return of Contributions on Termination	13	141	154	1	4	5
Return of Contributions on Death	29	66	95	17	7	24
Portability	7	15	23	9	2	11
Uniform Cola	310	N/A	310	242	N/A	242
Total Active	\$4,136	\$5,395	\$9,530	\$3,253	\$1,783	\$5,036
Inactive Members						
Terminated	\$235	\$659	\$894	\$228	\$179	\$407
Service Retired	6,014	653	6,667	5,099	115	5,214
Disability Retired	107	40	147	90	4	95
Survivors	348	27	376	192	3	195
Uniform Cola	843	N/A	843	741	N/A	741
Total Inactive	\$7,547	\$1,380	\$8,927	\$6,350	\$302	\$6,652
Laws of 2003	\$0	\$2	\$2	\$0	\$0	\$0
2002 Total	\$11,682	\$6,777	\$18,460	\$9,602	\$2,085	\$11,687
2001 Total	\$11,291	\$6,158	\$17,449	\$9,320	\$1,797	\$11,117

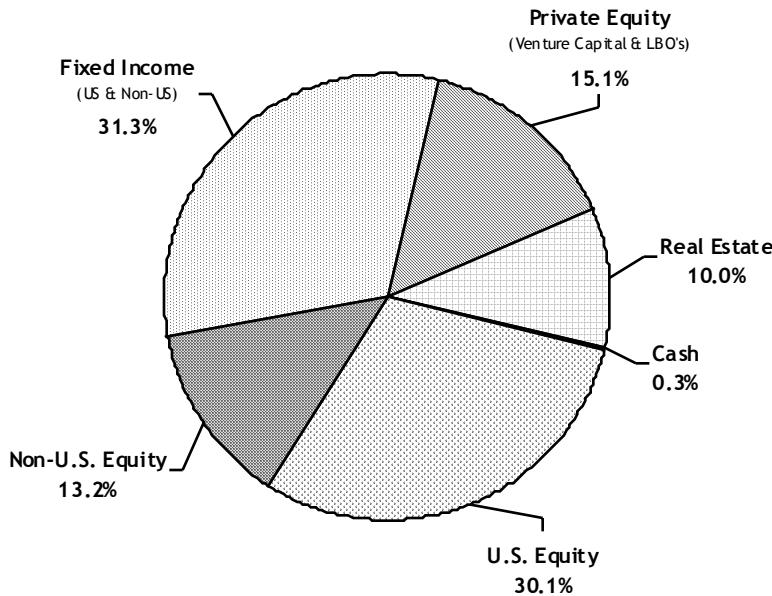
Note: Totals may not agree due to rounding

Present Value of Credited Projected Benefits						
(Dollars in millions)	(Continued)					
	SERS	LEOFF			WSP	
	Plan 2/3	Plan 1	Plan 2	Total	Plan 1	
Active Members						
Retirement	\$712	\$390	\$1,719	\$2,110	\$190	
Termination	61	1	45	46	1	
Death	7	5	5	10	3	
Disability	5	219	2	221	0	
Return of Contributions on Termination	13	0	41	41	1	
Return of Contributions on Death	5	2	24	26	1	
Portability	2	0	2	2	0	
Uniform Cola	N/A	N/A	N/A	N/A	N/A	
Total Active	\$806	\$617	\$1,839	\$2,456	\$195	
Inactive Members						
Terminated	\$54	\$12	\$51	\$63	\$3	
Service Retired	35	1245	42	1287	295	
Disability Retired	2	2027	4	2030	1	
Survivors	1	364	2	366	14	
Uniform Cola	N/A	N/A	N/A	N/A	N/A	
Total Inactive	\$92	\$3,648	\$98	\$3,747	\$313	
Laws of 2003	\$1	\$0	\$0	\$0	\$0	
2002 Total	\$899	\$4,265	\$1,937	\$6,202	\$508	
2001 Total	\$747	\$4,160	\$1,668	\$5,828	\$483	

Note: Totals may not agree due to rounding

Plan Assets

Retirement Commingled Trust Fund (CTF) Asset Allocation



Cash: Money held while being transferred between investments or placed temporarily in an interest-bearing account.

U.S. Fixed Income: U.S. Treasury and government bonds; investment-grade corporate bonds; publicly traded mortgage-backed securities; mortgages; asset-backed and convertible securities.

Non-U.S. Fixed Income: Foreign government bonds.

U.S. Equity: Stock in U.S. companies.

Non-U.S. Equity: Stock in foreign companies.

Venture Capital: Equity financing of early expansion and later-stage growth of small businesses.

Leveraged Buy-outs (LBOs): The purchase of all assets or stock in a company using borrowed funds.

Real Estate: Office and retail space; apartments; warehouses; hotels; etc.

Change in Market Value of Assets						
(Dollars in millions)	PERS			TRS		
	Plan 1 Fund 631	Plan 2/3 Fund 641	Total	Plan 1 Fund 632	Plan 2/3 Fund 642	Total
2001 Market Value	\$9,373	\$9,443	\$18,816	\$7,985	\$3,045	\$11,030
Revenue						
Contributions						
Employee	66	45	111	49	3	53
Employer/State	60	52	113	36	34	70
Total Contributions	127	97	224	86	37	123
Investment Return	(528)	(579)	(1,108)	(444)	(190)	(635)
Restorations	5	4	10	2	0	2
Transfers In	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Total Revenue	(\$396)	(\$478)	(\$874)	(\$356)	(\$153)	(\$509)
Disbursements						
Withdrawn Annuities						
Monthly Benefits	\$733	\$63	\$796	\$664	\$9	\$673
Refunds	7	42	49	2	4	7
Total Benefits	740	105	846	667	13	680
Transfers Out	0	183	183	0	2	2
Expenses	0	0	1	0	0	0
Total Disbursements	\$741	\$288	\$1,029	\$667	\$15	\$682
Payables	\$0	\$431	\$431	\$0	\$0	\$0
2002 Market Value	\$8,236	\$8,246	\$16,481	\$6,962	\$2,877	\$9,839
2002 Actuarial Value	\$10,757	\$10,701	\$21,458	\$9,366	\$3,800	\$13,166
Ratio	131%	130%	130%	135%	132%	134%

Note: Totals may not agree due to rounding

Change in Market Value of Assets

(Dollars in millions)

(Continued)

	SERS	LEOFF			WSP
	Plan 2/3 Fund 633	Plan 1 Fund 819	Plan 2 Fund 829	Total	Plan 1 Fund 615
2001 Market Value	\$1,230	\$4,578	\$2,210	\$6,788	\$608
Revenue					
Contributions					
Employee	3	0	40	40	1
Employer/State	4	0	40	40	0
Total Contributions	8	0	80	80	1
Investment Return	(77)	(261)	(142)	(403)	(36)
Restorations	0	0	0	0	0
Transfers In	2	0	0	0	0
Miscellaneous	0	0	0	0	0
Total Revenue	(\\$67)	(\\$261)	(\\$62)	(\\$323)	(\\$34)
Disbursements					
Withdrawn Annuities					
Monthly Benefits	3	256	3	259	23
Refunds	2	0	8	9	0
Total Benefits	5	256	11	268	23
Transfers Out	1	0	0	0	0
Expenses	0	0	0	0	0
Total Disbursements	\\$6	\\$256	\\$11	\\$268	\\$23
Payables	\\$0	\\$0	\\$0	\\$0	\\$0
2002 Market Value	\\$1,157	\\$4,060	\\$2,136	\\$6,196	\\$551
2002 Actuarial Value	\\$1,519	\\$5,095	\\$2,646	\\$7,742	\\$689
Ratio	131%	125%	124%	125%	125%

Note : Totals may not agree due to rounding

Calculation of Actuarial Value of Assets

(Dollars in Millions)

Investment Gain/(Loss) for Prior Year

	PERS 1	PERS 2/3*	TRS 1	TRS 2/3*	SERS 2/3*	LEOFF 1	LEOFF 2	WSP
a. 2001 Market Value (at SIB)	\$9,380	\$9,435	\$7,975	\$3,039	\$1,227	\$4,576	\$2,205	\$607
b. Total Cash Flow	(623)	(65)	(576)	26	5	(257)	68	(21)
c. 2002 Market Value (at SIB)	8,230	8,778	6,956	2,875	1,156	4,059	2,131	550
d. Actual return (c-b-a)	(\$527)	(\$592)	(\$443)	(\$190)	(\$76)	(\$261)	(\$141)	(\$36)
e. Weighted asset amount	\$9,047	\$9,412	\$7,700	\$3,047	\$1,224	\$4,438	\$2,232	\$595
f. Expected return (8%*e)	724	753	616	244	98	355	179	48
g. Investment Gain/(Loss) for Prior Year (d-f)	(\$1,251)	(\$1,345)	(\$1,059)	(\$434)	(\$174)	(\$616)	(\$320)	(\$83)
h. Dollar weighted rate of return	(5.83%)	(6.29%)	(5.76%)	(6.24%)	(6.19%)	(5.88%)	(6.33%)	(6.00%)

Note : Totals may not agree due to rounding

*Defined Benefit portion only

Actuarial Value of Assets as of September 30, 2002

(Dollars in Millions)	PERS 1	PERS 2/3*	TRS 1	TRS 2/3*	SERS 2/3*
a. Market Value at 9/30/2002	\$8,236	\$8,117**	\$6,962	\$2,877	\$1,157
b. Deferred Investment Gains and (Losses)					
<u>Plan Year Ending</u>	<u>Percent Deferred</u>				
9/30/2002	87.5%	(1,095)	(1,177)	(927)	(380)
9/30/2001	75.0%	(1,235)	(1,225)	(1,598)	(585)
12/31/2000***	25.0%	(191)	(182)	121	41
Total		(\$2,521)	(\$2,584)	(\$2,404)	(\$923)
c. Actuarial Value of Assets (a-b)	\$10,757	\$10,701	\$9,366	\$3,800	\$1,519

Defined Benefit portion only**Adjusted to reflect the difference between the market and actuarial value of payables*****6/ 30/2000 for TRS**Note: Totals may not agree due to rounding***Actuarial Value of Assets as of September 30, 2002**

(Dollars in Millions)	(Continued)		
	LEOFF 1	LEOFF 2	WSP
a. Market Value at 9/30/2002	\$4,060	\$2,136	\$551
b. Deferred Investment Gains and (Losses)			
<u>Plan Year Ending</u>	<u>Percent Deferred</u>		
9/30/2002	87.5%	(539)	(280)
9/30/2001	50.0%	(402)	(189)
12/31/2000	25.0%	(94)	(41)
Total		(\$1,035)	(\$510)
c. Actuarial Value of Assets (a-b)	\$5,095	\$2,646	\$689

Note: Totals may not agree due to rounding

Funded Status

Development of Funded Ratio									
(Dollars in millions)	PERS		TRS		SERS		LEOFF		WSP
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3	Plan 1	Plan 2	Plan 1	
Credited Projected Liability	\$11,682	\$6,777	\$9,602	\$2,085	\$899	\$4,265	\$1,937	\$508	
Valuation Assets	\$10,757	\$10,701	\$9,366	\$3,800	\$1,519	\$5,095	\$2,646	\$689	
Unfunded Liability		\$925	(\$3,924)	\$236	(\$1,715)	(\$620)	(\$830)	(\$709)	(\$180)
Funding Ratio:									
2002	92%	158%	98%	182%	169%	119%	137%	135%	
2001 *	97%	179%	100%	197%	197%	129%	154%	147%	
2000 *	98%	190%	100%	196%	170%	136%	161%	152%	
1999	93%	189%	93%	188%	N/A	125%	154%	159%	
1998	86%	191%	86%	185%	N/A	117%	160%	147%	
1997 *	83%	187%	82%	181%	N/A	108%	155%	140%	
1996	73%	157%	70%	144%	N/A	89%	130%	128%	
1995	68%	150%	65%	136%	N/A	80%	126%	119%	
1994 *	67%	142%	65%	130%	N/A	68%	124%	110%	
1993	70%	142%	62%	126%	N/A	68%	127%	110%	
1992	67%	139%	59%	127%	N/A	65%	128%	108%	
1991	67%	149%	59%	131%	N/A	66%	154%	106%	
1990	66%	154%	60%	140%	N/A	65%	153%	105%	
1989 *	65%	162%	58%	144%	N/A	65%	158%	103%	
1988	66%	165%	59%	143%	N/A	66%	153%	102%	
1987	71%	175%	58%	135%	N/A	69%	157%	95%	
1986	63%	162%	50%	125%	N/A	57%	142%	87%	

Note : Totals may not agree due to rounding

*Assumptions Changed

Actuarial Gains/Losses

Change in Employer and State Contribution Rate by Source

	PERS*	TRS*	SERS**	LEOFF***	WSP
Change in Employer Rate					
2001 Contribution Rate	2.05%	2.22%	1.74%	(5.22%)	(11.50%)
Laws of 2003	(0.33%)	(0.81%)	(0.35%)	0.01%	0.00%
2001 Adjusted Contribution Rate	1.72%	1.41%	1.39%	(5.21%)	(11.50%)
Economic Gains /Losses	1.68%	1.60%	1.36%	3.06%	12.44%
Demographic Gains/Losses	0.07%	0.02%	0.06%	(0.01%)	(0.02%)
Other Gains/Losses	0.31%	0.16%	0.83%	0.28%	(2.16%)
Total Change	2.06%	1.78%	2.25%	3.33%	10.26%
2002 Preliminary Contribution Rate	3.78%	3.19%	3.64%	(1.88%)	(1.24%)
Laws of 2003	0.00%	0.00%	0.00%	(0.59%)	(1.79%)
2002 Contribution Rate	3.78%	3.19%	3.64%	(2.47%)	(3.03%)
 Change in Normal Cost Rate					
2001 Normal Cost	1.41%	1.50%	1.10%	2.02%	(11.50%)
Laws of 2003	(0.23%)	(0.33%)	(0.25%)	0.01%	0.00%
2001 Adjusted Normal Cost	1.18%	1.17%	0.85%	2.03%	(11.50%)
Assets	0.85%	0.58%	1.05%	0.55%	11.76%
Salaries	0.01%	(0.11%)	0.00%	(0.05%)	(1.27%)
Growth	0.22%	0.28%	0.31%	0.04%	1.95%
Economic Gains/ Losses	1.08%	0.75%	1.36%	0.54%	12.44%
Termination/ Return to Work	0.07%	0.01%	0.11%	0.00%	(0.02%)
Retirement	0.00%	(0.01%)	(0.05%)	0.00%	0.00%
Demographic Gains/Losses	0.07%	0.00%	0.06%	0.00%	(0.02%)
Other Gains /Losses	0.30%	0.06%	0.22%	0.08%	(2.16%)
Total Change	1.45%	0.81%	1.64%	0.62%	10.26%
2002 Preliminary Normal Cost	2.63%	1.98%	2.49%	2.65%	(1.24%)
Laws of 2003	0.00%	0.00%	0.00%	(0.08%)	(1.79%)
2002 Normal Cost	2.63%	1.98%	2.49%	2.57%	(3.03%)
 Change in UAAL Rate					
2001 UAAL Rate	0.64%	0.72%	0.64%	(7.24%)	N/A
Laws of 2003	(0.10%)	(0.48%)	(0.10%)	0.00%	N/A
2001 Adjusted UAAL Rate	0.54%	0.24%	0.54%	(7.24%)	N/A
Assets	0.59%	0.86%	N/A	3.42%	N/A
Salaries	0.01%	(0.03%)	N/A	(0.06%)	N/A
Growth	0.00%	0.02%	N/A	(0.85%)	N/A
Inflation (CPI)	0.00%	0.00%	N/A	0.01%	N/A
Economic Gains/ Losses	0.60%	0.85%	N/A	2.52%	N/A
Termination/ Return to Work	0.00%	0.02%	N/A	0.00%	N/A
Retirement	0.00%	0.00%	N/A	(0.01%)	N/A
Demographic Gains/Losses	0.00%	0.02%	N/A	(0.01%)	N/A
Other Gains /Losses	0.01%	0.10%	0.61%	0.20%	N/A
Total Change	0.61%	0.97%	0.61%	2.71%	N/A
2002 Preliminary UAAL Rate	1.15%	1.21%	1.15%	(4.53%)	N/A
Laws of 2003	0.00%	0.00%	0.00%	(0.51%)	N/A
2002 UAAL Rate	1.15%	1.21%	1.15%	(5.04%)	N/A

*The adjusted PERS and TRS Plan 1 UAAL rates would be applicable after the 2003-05 UAAL contribution holiday

**The SERS rate includes the UAAL rate for PERS Plan 1

***The LEOFF rate is the State's portion only. The negative UAAL rate for Plan 1 is displayed for gain/loss analysis only.

Effect of Plan, Assumption and Method Changes

In addition to experience gains or losses, significant changes in plan provisions or actuarial assumptions and methods will also have an impact on contribution rates.

The effects of the following legislative changes are included in the valuation:

- HB 1205 (Chapter 388, Laws of 2003)
- HB 1207 (Chapter 402, Laws of 2003)
- EHB 2254 (Chapter 11, Laws of 2003, E1)

The table below shows the combined effect of all 2003 pension legislation.

Effect of Plan, Assumption and Method Changes as of September 30, 2002								
	PERS 1	PERS 2/3	TRS 1	TRS 2/3	SERS 2/3	LEOFF 1*	LEOFF 2*	WSP
**Before Changes								
Present Value of Fully Projected Benefits	\$ 12,532	\$13,089	\$10,209	\$4,421	\$ 1,803	\$4,338	\$4,033	\$686
Present Value of Credited Projected Benefits	11,682	6,775	9,602	2,085	898	4,265	1,937	508
Actuarial Value of Assets	10,189	10,684	8,701	3,551	1,438	5,018	2,606	678
Unfunded Liability	1,493	(3,909)	901	(1,466)	(540)	(753)	(669)	(170)
Employer Contribution Rate	4.11%	4.11%	4.00%	4.00%	3.99%	(1.89%)	(1.89%)	(1.24%)
After Changes								
Present Value of Fully Projected Benefits	\$ 12,532	\$13,093	\$10,209	\$4,422	\$ 1,804	\$4,338	\$4,042	\$686
Present Value of Credited Projected Benefits	11,682	6,777	9,602	2,085	899	4,265	1,937	508
Actuarial Value of Assets	10,757	10,701	9,366	3,800	1,519	5,095	2,646	689
Unfunded Liability	926	(3,924)	236	(1,715)	(620)	(830)	(709)	(180)
Employer Contribution Rate	3.78%	3.78%	3.19%	3.19%	3.64%	(2.47%)	(2.47%)	(3.03%)
Increase/(Decrease) in Rate	(0.33%)	(0.33%)	(0.81%)	(0.81%)	(0.35%)	(0.58%)	(0.58%)	(1.79%)

*The LEOFF rate is the State's portion only. The negative contribution rate is displayed for analysis only.

**After actuarial gains and losses

Participant Data

L = $\log_{10} \tan 2\phi' - 2^{\circ} 2' + 0^{\circ} 0684649 + 2$
 For the golm let's take $D = 0^{\circ} 5^{\prime \prime} 29' 29''$

For the golden score $N = 17$

Participant D

Given distance (q) = r' ; $\cos \frac{1}{2}v'$, or
Log. $\cos^2 \frac{1}{2}v'$ have $\frac{2}{9}8725654$
Kewwise Log. $\frac{1}{2}v'$ have $\frac{2}{9}82513680(N-1)$
Log. $\frac{1}{2}v'$ have $\frac{2}{9}82513680(N-1)$
 $\frac{1}{2}v' = \frac{0.07086943}{30}$
 $v' = 1.896960002$
 $v' = 0.49666525$
 $v' = 2.7$
 $v' = 26.$

PARTICIPANT DATA

Overview of System Membership

The state administers eight retirement systems for state and local public employees. Retirement system membership is determined according to the participant's occupation and employer. Employees covered by each system are defined in separate chapters of the Revised Code of Washington (RCW).

The state also administers benefits for volunteer fire fighters and two small judicial systems (not included in this valuation). The judicial systems are closed to new members. Judges hired after June 30, 1988 are members of PERS 2/3.

The five largest retirement systems and a general description of their membership are listed below.

PERS - Public Employees' Retirement System <i>Chapter 41.40 RCW</i>	State employees; employees of all counties and most cities (the exceptions are Tacoma, Seattle, and Spokane); non-teaching employees of institutions of higher learning and community colleges; employees of ports, service districts, the Washington Public Power Supply System and public utility districts. Judges first elected or appointed after June 30, 1988 are also included.
TRS - Teachers' Retirement System <i>Chapter 41.32 RCW</i>	Certificated teachers; administrators; and educational staff associates.
SERS - School Employees' Retirement System <i>Chapter 41.35 RCW</i>	Classified school district employees.
LEOFF - Law Enforcement and Fire Fighter's Retirement System <i>Chapter 41.26 RCW</i>	Fire fighters; law enforcement officers including sheriffs; university, port and city police officers.
WSP - Washington State Patrol Retirement System <i>Chapter 43.43 RCW</i>	Commissioned officers of the Washington State Patrol.

Active Membership By Employer and Plan

Employer	Total by Employer	PERS			TRS		
		Plan 1	Plan 2	Plan 3	Plan 1	Plan 2	Plan 3
State Agencies	59,512	8,161	43,229	6,919	101	7	59
Higher Education	18,672	2,033	14,205	2,252	66	7	4
Community Colleges	5,906	570	4,245	758	231	48	54
K-12	117,448	4,021	0	0	11,995	7,696	45,511
Counties	29,401	2,731	21,986	1,931	0	0	0
County Sub Divisions	16,265	1,472	13,560	1,233	0	0	0
First Class Cities	8,355	406	2,584	365	0	0	0
Other Cities	16,723	1,084	9,699	1,125	0	0	0
Ports	2,290	230	1,743	126	0	0	0
Education Service District	1,939	89	0	0	63	51	170
Fire Districts	2,800	31	440	36	0	0	0
Public Utility District	3,991	573	3,044	374	0	0	0
Water Districts	1,675	200	1,359	116	0	0	0
WPPSS	1,217	98	845	274	0	0	0
Unions	38	38	0	0	0	0	0
TOTAL	286,232	21,737	116,939	15,509	12,456	7,809	45,798

Active Membership By Employer and Plan

(Continued)

Employer	SERS		LEOFF		WSP
	Plan 2	Plan 3	Plan 1	Plan 2	
State Agencies	0	0	0	1	1,035
Higher Education	0	0	0	105	0
Community Colleges	0	0	0	0	0
K-12	22,159	26,066	0	0	0
Counties	0	0	170	2,583	0
County Sub Divisions	0	0	0	0	0
First Class Cities	0	0	561	4,439	0
Other Cities	0	0	315	4,500	0
Ports	0	0	10	181	0
Education Service District	711	855	0	0	0
Fire Districts	0	0	91	2,202	0
Public Utility District	0	0	0	0	0
Water Districts	0	0	0	0	0
WPPSS	0	0	0	0	0
Unions	0	0	0	0	0
TOTAL	22,870	26,921	1,147	14,011	1,035

The tables below summarize participant data changes from last year's valuation to the current year's valuation. The participant data is divided into two main categories: (1) Actives and (2) Annuitants (receiving a pension or annuity payment). The “+” symbol indicates new participants entering the system or actives and new beneficiaries entering the annuitant status; whereas the “-” symbol indicates participants that have left either active or annuitant status.

Reconciliation of Participant Data

	PERS			TRS		
	Plan 1	Plan 2	Plan 3	Plan 1	Plan 2	Plan 3
2001 Actives	23,981	128,955	0	13,971	8,056	44,193
Transfers	0	(9,202)	10,587	0	(62)	61
Hires/ Rehires (+)	481	12,332	4,922	182	318	4,611
New Retirees (-)	(1,995)	(630)	0	(1,440)	(69)	(56)
Deaths (-)	(60)	(186)	0	(13)	(13)	(21)
Terminations (-)	(670)	(14,330)	0	(244)	(421)	(2,990)
2002 Actives	21,737	116,939	15,509	12,456	7,809	45,798
2001 Annuitants	53,538	8,651	0	32,195	709	203
New Retirees (+)	2,340	1,215	9	1,736	117	77
Annuitant Deaths (-)	(2,304)	(231)	0	(913)	(6)	0
New Survivors (+)	443	113	0	156	3	4
Other (-)	(11)	(7)	0	(26)	0	(1)
2002 Annuitants	54,006	9,741	9	33,148	823	283
Ratio Actives to Annuitants	0.40	12.00	1,723.22	0.38	9.49	161.83

Reconciliation of Participant Data

(Continued)

	SERS		LEOFF		WSP
	Plan 2	Plan 3	Plan 1	Plan 2	Plan 1
2001 Actives	24,063	24,284	1,315	13,585	1,027
Transfers	734	84	0	0	0
Hires/ Rehires (+)	308	4,884	6	842	52
New Retirees (-)	(180)	(76)	(158)	(39)	(24)
Deaths (-)	(32)	(16)	(3)	(14)	0
Terminations (-)	(2,023)	(2,239)	(13)	(363)	(20)
2002 Actives	22,870	26,921	1,147	14,011	1,035
2001 Annuitants	191	78	7,894	184	696
New Retirees (+)	239	104	173	55	25
Annuitant Deaths (-)	(4)	(2)	(165)	(1)	(13)
New Survivors (+)	12	5	86	6	10
Other (-)	(1)	0	(1)	0	0
2002 Annuitants	437	185	7,987	244	718
Ratio Actives to Annuitants	52.33	145.52	0.14	57.42	1.44

Summary of Plan Participants

PERS:	Summary of Plan Participants							
	2002				2001			
	Plan 1	Plan 2	Plan 3	Total	Plan 1	Plan 2	Plan 3	Total
Active Members								
Number	21,737	116,939	15,509	154,185	23,981	128,955	0	152,936
Total Salaries (millions)	\$1,023	\$4,953	\$708	\$6,684	\$1,085	\$5,249	\$0	\$6,334
Average Age	54.6	44.0	42.7	45.4	54.0	43.4	0.0	45.1
Average Service	21.1	8.4	9.2	10.3	20.7	8.1	0.0	10.1
Average Salary	\$47,080	\$42,352	\$45,638	\$43,349	\$45,226	\$40,707	\$0	\$41,416
Terminated Members								
Number Vested	3,280	15,674	198	19,152	3,310	15,102	0	18,412
Number "Non-Vested"	7,010	77,151	0	84,161	8,019	76,733	0	84,752
Retirees (including L&I disabled)								
Number of Retirees (All)	54,006	9,741	9	63,756	53,538	8,651	0	62,189
Average Monthly Benefit, All Retirees	\$1,173	\$580	\$405	\$1,082	\$1,098	\$546	\$0	\$1,021
Number of New "Service Retirees"	2,264	1,062	9	3,335	1,750	710	0	2,460
Average Monthly Benefit, New "Service Retirees"	\$2,122	\$755	\$405	\$1,682	\$1,964	\$733	\$0	\$1,609

TRS:	Summary of Plan Participants							
	(Continued)							
	2002				2001			
	Plan 1	Plan 2	Plan 3	Total	Plan 1	Plan 2	Plan 3	Total
Active Members								
Number	12,456	7,809	45,798	66,063	13,971	8,056	44,193	66,220
Total Salaries (millions)	\$741	\$399	\$2,124	\$3,264	\$800	\$391	\$1,958	\$3,149
Average Age	54.6	48.6	40.6	44.2	53.9	47.8	40.0	43.9
Average Service	23.4	11.3	7.9	11.2	23.2	10.6	7.6	11.3
Average Salary	\$59,496	\$51,123	\$46,369	\$49,406	\$57,243	\$48,563	\$44,312	\$47,557
Terminated Members								
Number Vested	1,819	2,487	2,151	6,457	1,990	2,342	1,730	6,062
Number "Non-Vested"	814	4,378	0	5,192	949	5,041	0	5,990
Temporarily Disabled	3	0	0	3	5	0	0	5
Retirees								
Number of Retirees (All)	33,148	823	283	34,254	32,195	709	203	33,107
Average Monthly Benefit, All Retirees	\$1,476	\$904	\$376	\$1,453	\$1,409	\$854	\$367	\$1,391
Number of New "Service Retirees"	1,710	109	68	1,887	3,278	185	100	3,563
Average Monthly Benefit, New "Service Retirees"	\$2,126	\$1,093	\$411	\$2,005	\$1,985	\$1,002	\$413	\$1,890

Summary of Plan Participants**SERS:**

(Continued)

	2002			2001		
	Plan 2	Plan 3	Total	Plan 2	Plan 3	Total
Active Members						
Number	22,870	26,921	49,791	24,063	24,284	48,347
Total Salaries (millions)	\$494	\$592	\$1,086	\$486	\$518	\$1,004
Average Age	47.5	45.2	46.3	46.5	45.1	45.8
Average Service	7.7	6.8	7.2	6.9	7.0	7.0
Average Salary	\$21,593	\$21,988	\$21,807	\$20,193	\$21,324	\$20,761
Terminated Members						
Number Vested	1,397	1,148	2,545	929	637	1,566
Number "Non-Vested"	3,553	0	3,553	2,717	0	2,717
Retirees						
Number of Retirees (All)	437	185	622	191	78	269
Average Monthly Benefit, All Retirees	\$494	\$212	\$410	\$452	\$212	\$382
Number of New "Service Retirees"	208	97	305	144	74	218
Average Monthly Benefit, New "Service Retirees"	\$566	\$217	\$455	\$481	\$208	\$388

Summary of Plan Participants**LEOFF:**

(Continued)

	2002			2001		
	Plan 1	Plan 2	Total	Plan 1	Plan 2	Total
Active Members						
Number	1,147	14,011	15,158	1,315	13,585	14,900
Total Salaries (millions)	\$80	\$902	\$982	\$87	\$831	\$918
Average Age	53.2	39.0	40.1	52.4	38.5	39.7
Average Service	28.3	10.4	11.8	27.5	9.9	11.5
Average Salary	\$69,667	\$64,347	\$64,750	\$65,959	\$61,139	\$61,564
Terminated Members						
Number Vested	22	376	398	29	303	332
Number "Non-Vested"	90	1,137	1,227	94	1,051	1,145
Retirees						
Number of Retirees (All)	7,987	244	8,231	7,894	184	8,078
Average Monthly Benefit, All Retirees	\$2,730	\$1,188	\$2,684	\$2,620	\$1,063	\$2,585
Number of New "Service Retirees"*	173	45	218	185	39	224
Average Monthly Benefit, New "Service Retirees"**	\$3,428	\$1,583	\$3,047	\$3,070	\$1,485	\$2,794

*New Disability Retirees Included for Plan 1 Only

Summary of Plan Participants

WSP:

(Continued)

	2002	2001
	Total	Total
Active Members		
Number	1,035	1,027
Total Salaries (millions)	\$63	\$60
Average Age	38.4	38.3
Average Service	11.9	11.7
Average Salary	\$60,422	\$58,633
Terminated Members		
Number Vested	33	26
Number "Non-Vested"	17	14
Disabled Members*	62	63
Retirees		
Number of Retirees (All)	718	696
Average Monthly Benefit, All Retirees	\$2,756	\$2,647
Number of New "Service Retirees"	25	29
Average Monthly Benefit, New "Service Retirees"	\$3,468	\$3,867

**Benefits provided outside of pension funds*

Appendices

$L = 4 = \log_{10} 28' - 22929^{\circ}25'23''5 + 0.0684649 + 2$

For the golden core $N = 17$ we have

the golden number we have $N = 17$, the mean distance (\bar{q}) = r' ; $\cos \frac{1}{2}v'$, or

for the golden segments we have $\sqrt{N}25654$.

$\log \cos \frac{1}{2}v' = \log r'$

likewise $\log c - 16 = \log r'$

$\log 0.070869430 = \log 0.6960002$

$9E = \frac{0.4966525}{0.6960002} = 2$

$9E = \frac{27}{2} = 2$

the application of the principle of the

error of the orbit $P = \frac{1}{2}(v' - u')$

for the orbit $P = \frac{1}{2}(v' - u') = 26$

APPENDICES

Actuarial Assumptions and Methods

Actuarial Cost Methods

The method employed varies by plan:

Plans 1: A variation of the Entry Age Cost Method was used to determine the normal cost and the actuarial accrued liability for retirement, termination and ancillary benefits. Under this method, the normal cost is determined by the contribution rate which, if collected from the average new member's entry date to retirement, would fully prefund the member's projected benefit (projected under the valuation assumptions). Since all new entrants are members of Plan 2 or Plan 3, we have used the aggregate Plan 2/3 normal cost rate for Plan 1.

Under this method, the unfunded actuarial accrued liability is equal to the unfunded actuarial present value of projected benefits less the actuarial present value of future normal costs for all active members. The unfunded actuarial accrued liability is amortized by June 30, 2024 as a level percentage of projected system payroll. The projected payroll includes pay from plan 2 and plan 3 as well as projected payroll from future new entrants.

Plans 2 and Plans 3: The Aggregate Cost Method was used to determine the normal cost and the actuarial accrued liability for retirement, termination and ancillary benefits. Under this method, the unfunded actuarial present value of fully projected benefits is amortized over the future payroll of the active group. The entire contribution is considered normal cost and no unfunded actuarial accrued liability exists.

Washington State Patrol: The Aggregate Cost Method was used to determine the normal cost and the actuarial accrued liability for retirement, termination and ancillary benefits. The entire normal cost is divided equally between the employee and the employer. The minimum employee normal cost rate is 2%.

Asset Valuation Method

The actuarial value of assets is calculated under an adjusted market value method by starting with the market value of assets. For subsequent years the actuarial value of assets is determined by adjusting the market value of assets to reflect the difference between the actual investment return and the expected investment return during each of the last 8 years or, if fewer, the completed years since adoption, at the following rates per year (annual recognition):

Annual Gain/Loss		
Rate of Return	Smoothing Period	Annual Recognition
16% and up	8 years	12.50%
15-16%	7 years	14.29%
14-15%	6 years	16.67%
13-14%	5 years	20.00%
12-13%	4 years	25.00%
11-12%	3 years	33.33%
10-11%	2 years	50.00%
9-10%	1 year	100.00%
8-9%	0 years	100.00%
7-8%	1 year	100.00%
6-7%	2 years	50.00%
5-6%	3 years	33.33%
4-5%	4 years	25.00%
3-4%	5 years	20.00%
2-3%	6 years	16.67%
1-2%	7 years	14.29%
1% and lower	8 years	12.50%

The Legislature adopted this method for PERS, TRS and SERS for the 2001 valuation; and adopted this method for LEOFF and WSP for the 2002 valuation.

Changes in Assumptions and Methods since Last Valuation

The method for calculating the actuarial value of assets has changed.

Economic Assumptions

Economic Assumptions					
By System	PERS	TRS	SERS	LEOFF	WSP
Annual Growth in Membership	1.25%	0.90%	1.25%	1.25%	1.25%
Interest on Member Contributions ¹	5.50%	5.50%	5.50%	5.50%	5.50%
Return on Investment Earnings ²	8.00%	8.00%	8.00%	8.00%	8.00%
Inflation ³	3.50%	3.50%	3.50%	3.50%	3.50%
General Salary Increases (due to inflation) ⁴	4.50%	4.50%	4.50%	4.50%	4.50%
Annual COLA	Uniform ⁵	Uniform ⁵			
Plan 1:	COLA ⁵	COLA ⁵			
Plan 2 / 3:	3.00% ⁶	3.00% ⁶	3.00% ⁶	3.00% ⁶	3.00% ⁶

¹ Annual rate, compounded quarterly

² Annual rate, compounded annually

³ Based on the CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items

⁴ Excludes longevity, merit or step increases that usually apply to members in the early part of their careers

⁵ As provided in the plan provisions

⁶ Based on the CPI, subject to a 3% maximum

⁷ Equal to the CPI

Demographic Assumptions

Probability of Service Retirement																	
Age	PERS								TRS								
	Plan 1		Plan 2/3*		Plan 2/3*		Plan 1		Plan 1		Plan 2/3*		Plan 2/3*		Plan 2/3*		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
	Service less than 30 years		Service greater than or equal to 30 years		Service not equal to 30 years		Service equal to 30 years		Service less than 30 years		Service greater than or equal to 30 years		Service less than 30 years		Service greater than or equal to 30 years		
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
49	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.20	0.40	0.30	0.00	0.00	0.00	0.00	0.00	0.00	
50	0.64	0.40	0.00	0.00	0.00	0.25	0.20	0.40	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
51	0.57	0.43	0.00	0.00	0.00	0.25	0.20	0.40	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
52	0.52	0.37	0.00	0.00	0.00	0.25	0.20	0.40	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
53	0.52	0.33	0.00	0.00	0.00	0.25	0.20	0.40	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
54	0.52	0.52	0.00	0.00	0.00	0.25	0.20	0.40	0.30	0.05	0.03	0.08	0.05	0.00	0.00	0.00	
55	0.22	0.26	0.05	0.05	0.07	0.07	0.20	0.20	0.35	0.30	0.05	0.05	0.08	0.08	0.00	0.00	
56	0.22	0.18	0.05	0.05	0.07	0.07	0.20	0.20	0.35	0.30	0.05	0.10	0.08	0.15	0.00	0.00	
57	0.22	0.18	0.05	0.05	0.07	0.07	0.20	0.20	0.40	0.30	0.05	0.10	0.08	0.15	0.00	0.00	
58	0.22	0.22	0.10	0.05	0.14	0.07	0.20	0.25	0.45	0.30	0.05	0.10	0.08	0.15	0.00	0.00	
59	0.22	0.37	0.10	0.05	0.14	0.07	0.20	0.25	0.45	0.30	0.20	0.15	0.30	0.23	0.00	0.00	
60	0.22	0.18	0.14	0.14	0.21	0.21	0.20	0.20	0.60	0.35	0.40	0.20	0.60	0.30	0.00	0.00	
61	0.22	0.22	0.14	0.18	0.21	0.27	0.45	0.35	0.60	0.55	0.30	0.30	0.45	0.45	0.00	0.00	
62	0.40	0.37	0.33	0.30	0.50	0.45	0.30	0.25	0.60	0.50	0.30	0.30	0.45	0.45	0.00	0.00	
63	0.26	0.26	0.26	0.26	0.39	0.39	0.25	0.20	0.60	0.50	0.60	0.50	0.90	0.75	0.00	0.00	
64	0.30	0.26	0.79	0.82	0.90	0.90	0.45	0.45	0.90	0.90	0.50	0.50	0.50	0.50	0.00	0.00	
65	0.49	0.46	0.52	0.49	0.52	0.49	0.45	0.35	0.90	0.90	0.50	0.30	0.50	0.30	0.00	0.00	
66	0.30	0.26	0.30	0.30	0.30	0.30	0.35	0.30	0.90	0.90	0.50	0.25	0.50	0.25	0.00	0.00	
67	0.30	0.26	0.22	0.26	0.22	0.26	0.30	0.35	0.90	0.90	0.50	0.25	0.50	0.25	0.00	0.00	
68	0.30	0.26	0.22	0.26	0.22	0.26	0.30	0.25	0.90	0.90	0.50	0.40	0.50	0.40	0.00	0.00	
69	0.30	0.26	0.26	0.22	0.26	0.22	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
70+	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

*Approximately 50% of those eligible to retire in Plan 3 elect to defer their benefits

Probability of Service Retirement

(Continued)

Age	SERS		LEOFF		WSP	
	Plan 2/3	Plan 2/3*	Plan 1	Plan 2	Male & Female	Male & Female
Service less than 30 years	Service greater than or equal to 30 years					
45	0.00	0.00	0.00	0.00	0.00	0.31
46	0.00	0.00	0.00	0.00	0.00	0.31
47	0.00	0.00	0.00	0.00	0.00	0.31
48	0.00	0.00	0.00	0.00	0.00	0.31
49	0.00	0.00	0.00	0.00	0.00	0.31
50	0.00	0.00	0.00	0.09	0.10	0.31
51	0.00	0.00	0.00	0.07	0.10	0.23
52	0.00	0.00	0.00	0.08	0.10	0.23
53	0.00	0.00	0.00	0.08	0.16	0.23
54	0.02	0.02	0.04	0.10	0.19	0.23
55	0.05	0.05	0.07	0.07	0.16	0.23
56	0.05	0.05	0.07	0.07	0.16	0.28
57	0.05	0.05	0.07	0.07	0.16	0.28
58	0.10	0.05	0.14	0.07	0.23	0.33
59	0.10	0.05	0.14	0.07	0.23	0.33
60	0.14	0.14	0.21	0.21	0.23	0.33
61	0.14	0.18	0.21	0.27	0.28	0.37
62	0.33	0.30	0.50	0.45	0.28	0.37
63	0.26	0.26	0.39	0.39	0.28	0.37
64	0.79	0.82	0.90	0.90	0.40	0.48
65	0.52	0.49	0.52	0.49	1.00	1.00
66	0.30	0.30	0.30	0.30	1.00	1.00
67	0.22	0.26	0.22	0.26	1.00	1.00
68	0.22	0.26	0.22	0.26	1.00	1.00
69	1.00	1.00	1.00	1.00	1.00	1.00
70+	1.00	1.00	1.00	1.00	1.00	1.00

*Approximately 50% of those eligible to retire in Plan 3 elect to defer their benefits

RP-2000 Mortality Rates		Combined Healthy Table		Age Offset (Years) -->		PERS - all plans		TRS - all plans		SERS - all plans		LEOFF - all plans		WSP	
Age	Male	Female	Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
20	0.000345	0.000191	20	0.000345	0.000191	0.000345	0.000191	0.000345	0.000191	0.000345	0.000191	0.000345	0.000191	0.000345	0.000191
21	0.000357	0.000192	21	0.000357	0.000192	0.000345	0.000191	0.000357	0.000191	0.000357	0.000192	0.000357	0.000192	0.000357	0.000192
22	0.000366	0.000194	22	0.000366	0.000194	0.000345	0.000191	0.000366	0.000191	0.000366	0.000194	0.000366	0.000194	0.000366	0.000194
23	0.000373	0.000197	23	0.000373	0.000197	0.000357	0.000192	0.000373	0.000192	0.000373	0.000197	0.000373	0.000197	0.000373	0.000197
24	0.000376	0.000201	24	0.000376	0.000201	0.000366	0.000194	0.000376	0.000194	0.000376	0.000201	0.000376	0.000201	0.000376	0.000201
25	0.000376	0.000207	25	0.000376	0.000207	0.000373	0.000197	0.000376	0.000197	0.000376	0.000207	0.000376	0.000207	0.000376	0.000207
26	0.000378	0.000214	26	0.000378	0.000214	0.000376	0.000201	0.000378	0.000201	0.000378	0.000214	0.000378	0.000214	0.000378	0.000214
27	0.000382	0.000223	27	0.000382	0.000223	0.000376	0.000207	0.000382	0.000207	0.000382	0.000223	0.000382	0.000223	0.000382	0.000223
28	0.000393	0.000235	28	0.000393	0.000235	0.000378	0.000214	0.000393	0.000214	0.000393	0.000235	0.000393	0.000235	0.000393	0.000235
29	0.000412	0.000248	29	0.000412	0.000248	0.000382	0.000223	0.000412	0.000223	0.000412	0.000248	0.000412	0.000248	0.000412	0.000248
30	0.000444	0.000264	30	0.000444	0.000264	0.000393	0.000235	0.000444	0.000235	0.000444	0.000264	0.000444	0.000264	0.000444	0.000264
31	0.000499	0.000307	31	0.000499	0.000307	0.000412	0.000248	0.000499	0.000248	0.000499	0.000307	0.000499	0.000307	0.000499	0.000307
32	0.000562	0.000350	32	0.000562	0.000350	0.000444	0.000264	0.000562	0.000264	0.000562	0.000350	0.000562	0.000350	0.000562	0.000350
33	0.000631	0.000394	33	0.000631	0.000394	0.000499	0.000307	0.000631	0.000307	0.000631	0.000394	0.000631	0.000394	0.000631	0.000394
34	0.000702	0.000435	34	0.000702	0.000435	0.000562	0.000350	0.000702	0.000350	0.000702	0.000435	0.000702	0.000435	0.000702	0.000435
35	0.000773	0.000475	35	0.000773	0.000475	0.000631	0.000394	0.000773	0.000394	0.000773	0.000475	0.000773	0.000475	0.000773	0.000475
36	0.000841	0.000514	36	0.000841	0.000514	0.000702	0.000435	0.000841	0.000435	0.000841	0.000514	0.000841	0.000514	0.000841	0.000514
37	0.000904	0.000554	37	0.000904	0.000554	0.000773	0.000475	0.000904	0.000475	0.000904	0.000554	0.000904	0.000554	0.000904	0.000554
38	0.000964	0.000598	38	0.000964	0.000598	0.000841	0.000514	0.000964	0.000514	0.000964	0.000598	0.000964	0.000598	0.000964	0.000598
39	0.001021	0.000648	39	0.001021	0.000648	0.000904	0.000554	0.001021	0.000554	0.001021	0.000648	0.001021	0.000648	0.001021	0.000648
40	0.001079	0.000706	40	0.001079	0.000706	0.000964	0.000598	0.001079	0.000598	0.001079	0.000706	0.001079	0.000706	0.001079	0.000706
41	0.001142	0.000774	41	0.001142	0.000774	0.001021	0.000648	0.001142	0.000648	0.001142	0.000774	0.001142	0.000774	0.001142	0.000774
42	0.001215	0.000852	42	0.001215	0.000852	0.001079	0.000706	0.001215	0.000706	0.001215	0.000852	0.001215	0.000852	0.001215	0.000852
43	0.001299	0.000937	43	0.001299	0.000937	0.001142	0.000774	0.001299	0.000774	0.001299	0.000937	0.001299	0.000937	0.001299	0.000937
44	0.001397	0.001029	44	0.001397	0.001029	0.001215	0.000852	0.001397	0.000852	0.001397	0.001029	0.001397	0.001029	0.001397	0.001029
45	0.001508	0.001124	45	0.001508	0.001124	0.001299	0.000937	0.001508	0.000937	0.001508	0.001124	0.001508	0.001124	0.001508	0.001124
46	0.001616	0.001223	46	0.001616	0.001223	0.001397	0.001029	0.001616	0.001029	0.001616	0.001223	0.001616	0.001223	0.001616	0.001223
47	0.001734	0.001326	47	0.001734	0.001326	0.001508	0.001124	0.001734	0.001124	0.001734	0.001326	0.001734	0.001326	0.001734	0.001326
48	0.001860	0.001434	48	0.001860	0.001434	0.001616	0.001223	0.001860	0.001223	0.001860	0.001434	0.001860	0.001434	0.001860	0.001434
49	0.001995	0.001550	49	0.001995	0.001550	0.001734	0.001326	0.001995	0.001326	0.001995	0.001550	0.001995	0.001550	0.001995	0.001550
50	0.002138	0.001676	50	0.002138	0.001676	0.001860	0.001434	0.002138	0.001434	0.002138	0.001676	0.002138	0.001676	0.002138	0.001676

Mortality

(Continued)

RP-2000 Mortality Rates				Mortality											
Combined Healthy		Age Offset		PERS - all plans		TRS - all plans		SERS - all plans		LEOFF - all plans		WSP			
Age	Male	Female	Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
51	0.002449	0.001852	51	0.002449	0.001852	0.001995	0.001550	0.002449	0.001550	0.002449	0.001852	0.002449	0.001852	0.002449	0.001852
52	0.002667	0.002018	52	0.002667	0.002018	0.002138	0.001676	0.002667	0.001676	0.002667	0.002018	0.002667	0.002018	0.002667	0.002018
53	0.002916	0.002207	53	0.002916	0.002207	0.002449	0.001852	0.002916	0.001852	0.002916	0.002207	0.002916	0.002207	0.002916	0.002207
54	0.003196	0.002424	54	0.003196	0.002424	0.002667	0.002018	0.003196	0.002018	0.003196	0.002424	0.003196	0.002424	0.003196	0.002424
55	0.003624	0.002717	55	0.003624	0.002717	0.002916	0.002207	0.003624	0.002207	0.003624	0.002717	0.003624	0.002717	0.003624	0.002717
56	0.004200	0.003090	56	0.004200	0.003090	0.003196	0.002424	0.004200	0.002424	0.004200	0.003090	0.004200	0.003090	0.004200	0.003090
57	0.004693	0.003478	57	0.004693	0.003478	0.003624	0.002717	0.004693	0.002717	0.004693	0.003478	0.004693	0.003478	0.004693	0.003478
58	0.005273	0.003923	58	0.005273	0.003923	0.004200	0.003090	0.005273	0.003090	0.005273	0.003923	0.005273	0.003923	0.005273	0.003923
59	0.005945	0.004441	59	0.005945	0.004441	0.004693	0.003478	0.005945	0.003478	0.005945	0.004441	0.005945	0.004441	0.005945	0.004441
60	0.006747	0.005055	60	0.006747	0.005055	0.005273	0.003923	0.006747	0.003923	0.006747	0.005055	0.006747	0.005055	0.006747	0.005055
61	0.007676	0.005814	61	0.007676	0.005814	0.005945	0.004441	0.007676	0.004441	0.007676	0.005814	0.007676	0.005814	0.007676	0.005814
62	0.008757	0.006657	62	0.008757	0.006657	0.006747	0.005055	0.008757	0.005055	0.008757	0.006657	0.008757	0.006657	0.008757	0.006657
63	0.010012	0.007648	63	0.010012	0.007648	0.007648	0.005814	0.010012	0.005814	0.010012	0.007648	0.010012	0.007648	0.010012	0.007648
64	0.011280	0.008619	64	0.011280	0.008619	0.008757	0.006657	0.011280	0.006657	0.011280	0.008619	0.011280	0.008619	0.011280	0.008619
65	0.012737	0.009706	65	0.012737	0.009706	0.010012	0.007648	0.012737	0.007648	0.012737	0.009706	0.012737	0.009706	0.012737	0.009706
66	0.014409	0.010954	66	0.014409	0.010954	0.010954	0.01280	0.014409	0.010954	0.014409	0.008619	0.014409	0.010954	0.014409	0.010954
67	0.016075	0.012163	67	0.016075	0.012163	0.012163	0.012737	0.016075	0.012737	0.016075	0.009706	0.016075	0.012163	0.016075	0.012163
68	0.017871	0.013445	68	0.017871	0.013445	0.014409	0.010954	0.017871	0.010954	0.017871	0.010954	0.017871	0.013445	0.017871	0.013445
69	0.019802	0.014860	69	0.019802	0.014860	0.016075	0.012163	0.019802	0.012163	0.019802	0.012163	0.019802	0.012163	0.019802	0.012163
70	0.022206	0.016742	70	0.022206	0.016742	0.017871	0.013445	0.022206	0.013445	0.022206	0.016742	0.022206	0.016742	0.022206	0.016742
71	0.024570	0.018579	71	0.024570	0.018579	0.019802	0.014860	0.024570	0.019802	0.024570	0.018579	0.024570	0.018579	0.024570	0.018579
72	0.027281	0.020665	72	0.027281	0.020665	0.022206	0.016742	0.027281	0.016742	0.027281	0.020665	0.027281	0.020665	0.027281	0.020665
73	0.030387	0.022970	73	0.030387	0.022970	0.024570	0.018579	0.030387	0.018579	0.030387	0.022970	0.030387	0.022970	0.030387	0.022970
74	0.033900	0.025458	74	0.033900	0.025458	0.027281	0.020665	0.033900	0.020665	0.033900	0.025458	0.033900	0.025458	0.033900	0.025458
75	0.037834	0.028106	75	0.037834	0.028106	0.030387	0.022970	0.037834	0.022970	0.037834	0.028106	0.037834	0.028106	0.037834	0.028106
76	0.042169	0.030966	76	0.042169	0.030966	0.033900	0.025458	0.042169	0.025458	0.042169	0.030966	0.042169	0.030966	0.042169	0.030966
77	0.046906	0.034105	77	0.046906	0.034105	0.037834	0.028106	0.046906	0.028106	0.046906	0.034105	0.046906	0.034105	0.046906	0.034105
78	0.052123	0.037595	78	0.052123	0.037595	0.042169	0.030966	0.052123	0.030966	0.052123	0.037595	0.052123	0.037595	0.052123	0.037595
79	0.057927	0.041506	79	0.057927	0.041506	0.046906	0.034105	0.057927	0.034105	0.057927	0.041506	0.057927	0.041506	0.057927	0.041506
80	0.064368	0.045879	80	0.064368	0.045879	0.052123	0.037595	0.064368	0.037595	0.064368	0.045879	0.064368	0.045879	0.064368	0.045879

Mortality

(Continued)

RP-2000 Mortality Rates		Combined Healthy		Age Offset (Years) -->		PERS - all plans		TRS - all plans		SERS - all plans		LEOFF - all plans		WSP	
Age	Male	Female	Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
81	0.072041	0.050780	81	0.072041	0.050780	0.057927	0.041506	0.072041	0.041506	0.072041	0.050780	0.072041	0.050780	0.072041	0.050780
82	0.080486	0.056294	82	0.080486	0.056294	0.064368	0.045879	0.080486	0.045879	0.080486	0.056294	0.080486	0.056294	0.080486	0.056294
83	0.089718	0.062506	83	0.089718	0.062506	0.072041	0.050780	0.089718	0.050780	0.089718	0.062506	0.089718	0.062506	0.089718	0.062506
84	0.099779	0.069517	84	0.099779	0.069517	0.080486	0.056294	0.099779	0.056294	0.099779	0.062506	0.099779	0.062506	0.099779	0.069517
85	0.110757	0.077446	85	0.110757	0.077446	0.089718	0.062506	0.110757	0.062506	0.110757	0.062506	0.110757	0.062506	0.110757	0.077446
86	0.122797	0.086376	86	0.122797	0.086376	0.099779	0.069517	0.122797	0.069517	0.122797	0.086376	0.122797	0.086376	0.122797	0.086376
87	0.136043	0.096337	87	0.136043	0.096337	0.110757	0.077446	0.136043	0.077446	0.136043	0.096337	0.136043	0.096337	0.136043	0.096337
88	0.150590	0.107303	88	0.150590	0.107303	0.122797	0.086376	0.150590	0.086376	0.150590	0.107303	0.150590	0.107303	0.150590	0.107303
89	0.166420	0.119154	89	0.166420	0.119154	0.136043	0.096337	0.166420	0.096337	0.166420	0.119154	0.166420	0.119154	0.166420	0.119154
90	0.1833408	0.131682	90	0.1833408	0.131682	0.150590	0.107303	0.1833408	0.107303	0.1833408	0.131682	0.1833408	0.131682	0.1833408	0.131682
91	0.199769	0.144604	91	0.199769	0.144604	0.166420	0.119154	0.199769	0.119154	0.199769	0.144604	0.199769	0.144604	0.199769	0.144604
92	0.216605	0.157618	92	0.216605	0.157618	0.1833408	0.131682	0.216605	0.131682	0.216605	0.157618	0.216605	0.157618	0.216605	0.157618
93	0.233362	0.170433	93	0.233362	0.170433	0.199769	0.144604	0.233362	0.144604	0.233362	0.170433	0.233362	0.170433	0.233362	0.170433
94	0.250693	0.182799	94	0.250693	0.182799	0.216605	0.157618	0.250693	0.157618	0.250693	0.182799	0.250693	0.182799	0.250693	0.182799
95	0.267491	0.194509	95	0.267491	0.194509	0.233362	0.170433	0.267491	0.170433	0.267491	0.194509	0.267491	0.194509	0.267491	0.194509
96	0.283905	0.205379	96	0.283905	0.205379	0.250693	0.182799	0.283905	0.182799	0.283905	0.205379	0.283905	0.205379	0.283905	0.205379
97	0.299852	0.215240	97	0.299852	0.215240	0.267491	0.194509	0.299852	0.194509	0.299852	0.215240	0.299852	0.215240	0.299852	0.215240
98	0.315296	0.223947	98	0.315296	0.223947	0.283905	0.205379	0.315296	0.205379	0.315296	0.223947	0.315296	0.223947	0.315296	0.223947
99	0.330207	0.231387	99	0.330207	0.231387	0.299852	0.215240	0.330207	0.215240	0.330207	0.231387	0.330207	0.231387	0.330207	0.231387
100	0.344556	0.237467	100	0.344556	0.237467	0.315296	0.223947	0.344556	0.223947	0.344556	0.237467	0.344556	0.237467	0.344556	0.237467
101	0.358628	0.244834	101	0.358628	0.244834	0.330207	0.231387	0.358628	0.231387	0.358628	0.244834	0.358628	0.244834	0.358628	0.244834
102	0.371685	0.254498	102	0.371685	0.254498	0.344556	0.237467	0.371685	0.237467	0.371685	0.254498	0.371685	0.254498	0.371685	0.254498
103	0.383040	0.266044	103	0.383040	0.266044	0.358628	0.244834	0.383040	0.244834	0.383040	0.266044	0.383040	0.266044	0.383040	0.266044
104	0.392003	0.279055	104	0.392003	0.279055	0.371685	0.254498	0.392003	0.254498	0.392003	0.279055	0.392003	0.279055	0.392003	0.279055
105	0.397886	0.293116	105	0.397886	0.293116	0.383040	0.266044	0.397886	0.266044	0.397886	0.293116	0.397886	0.293116	0.397886	0.293116
106	0.400000	0.307811	106	0.400000	0.307811	0.392003	0.279055	0.400000	0.279055	0.400000	0.293116	0.400000	0.293116	0.400000	0.307811
107	0.400000	0.322725	107	0.400000	0.322725	0.397886	0.293116	0.400000	0.293116	0.400000	0.322725	0.400000	0.322725	0.400000	0.322725
108	0.400000	0.337441	108	0.400000	0.337441	0.400000	0.307811	0.400000	0.307811	0.400000	0.337441	0.400000	0.337441	0.400000	0.337441
109	0.400000	0.351544	109	0.400000	0.351544	0.400000	0.322725	0.400000	0.322725	0.400000	0.351544	0.400000	0.351544	0.400000	0.351544
110	0.400000	0.364617	110	0.400000	0.364617	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

RP-2000 Mortality Rates		Combined Healthy Table		Age Offset (Years) -->		PERS - all plans		TRS - all plans		SERS - all plans		LEOFF - all plans		WSP		
Age	Male	Female	Age	Probability	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
20	0.000345	0.000191	20	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
21	0.000357	0.000192	21	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
22	0.000366	0.000194	22	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
23	0.000373	0.000197	23	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
24	0.000376	0.000201	24	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
25	0.000376	0.000207	25	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
26	0.000378	0.000214	26	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
27	0.000382	0.000223	27	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
28	0.000393	0.000235	28	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
29	0.000412	0.000248	29	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
30	0.000444	0.000264	30	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
31	0.000499	0.000307	31	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
32	0.000562	0.000350	32	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
33	0.000631	0.000394	33	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
34	0.000702	0.000435	34	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
35	0.000773	0.000475	35	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
36	0.000841	0.000514	36	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
37	0.000904	0.000554	37	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
38	0.000964	0.000598	38	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
39	0.001021	0.000648	39	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
40	0.001079	0.000706	40	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
41	0.001142	0.000774	41	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
42	0.001215	0.000852	42	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
43	0.001299	0.000937	43	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
44	0.001397	0.001029	44	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
45	0.001508	0.001124	45	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
46	0.001616	0.001223	46	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
47	0.001734	0.001326	47	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
48	0.001860	0.001434	48	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	
49	0.001995	0.001550	49	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	

Disabled Mortality											
(Continued)											
RP-2000 Mortality Rates	Age Offset (Years) -->	PERS - all plans		TRS - all plans		SERS - all plans		LEOFF - all plans		WSP	
		Age	Male	Female	Age	Male	Female	Male	Female	Male	Female
50	0.002138	0.001676	50	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000
51	0.002449	0.001852	51	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000
52	0.002667	0.002018	52	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000
53	0.002916	0.002207	53	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000
54	0.003196	0.002424	54	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000
55	0.003624	0.002717	55	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005000	0.005000
56	0.004200	0.003090	56	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005273	0.005000
57	0.004693	0.003478	57	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.005945	0.005000
58	0.005273	0.003923	58	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.006747	0.005055
59	0.005945	0.004441	59	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.007676	0.005814
60	0.006747	0.005055	60	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.008757	0.006657
61	0.007676	0.005814	61	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.010012	0.007648
62	0.008757	0.006657	62	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.011280	0.008619
63	0.010012	0.007648	63	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.012737	0.009706
64	0.011280	0.008619	64	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.014409	0.010954
65	0.012737	0.009706	65	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.016075	0.012163
66	0.014409	0.010954	66	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.017871	0.013445
67	0.016075	0.012163	67	0.050000	0.035000	0.030000	0.017500	0.030000	0.030000	0.019802	0.014860
68	0.017871	0.013445	68	0.050000	0.035000	0.0300387	0.017500	0.030387	0.030000	0.022206	0.016742
69	0.019802	0.014860	69	0.050000	0.035000	0.033900	0.018579	0.033900	0.030000	0.024570	0.018579
70	0.022206	0.016742	70	0.050000	0.035000	0.037834	0.020665	0.037834	0.030000	0.027281	0.020665
71	0.024570	0.018579	71	0.050000	0.035000	0.042169	0.022970	0.042169	0.030000	0.030387	0.022970
72	0.027281	0.020665	72	0.052123	0.037595	0.046906	0.025458	0.046906	0.030000	0.033900	0.025458
73	0.030387	0.022970	73	0.057927	0.041506	0.052123	0.028106	0.052123	0.030966	0.042169	0.030966
74	0.033900	0.025458	74	0.064368	0.045879	0.057927	0.030966	0.057927	0.034105	0.046906	0.034105
75	0.037834	0.028106	75	0.072041	0.050780	0.064368	0.034105	0.064368	0.046906	0.046906	0.034105
76	0.042169	0.030966	76	0.080486	0.056294	0.072041	0.037595	0.072041	0.037595	0.052123	0.037595
77	0.046906	0.034105	77	0.089718	0.062506	0.080486	0.041506	0.080486	0.041506	0.057927	0.041506
78	0.052123	0.037595	78	0.099779	0.069517	0.089718	0.045879	0.089718	0.064368	0.045879	0.064368
79	0.057927	0.041506	79	0.110757	0.077446	0.099779	0.050780	0.099779	0.050780	0.072041	0.050780
80	0.064368	0.045879	80	0.122797	0.086376	0.110757	0.056294	0.110757	0.056294	0.080486	0.056294

Disabled Mortality

(Continued)

RP-2000 Mortality Rates										Disabled Mortality					
Age	Combined Healthy		Age Offset (Years) -->		PERS - all plans		TRS - all plans		SERS - all plans		LEOFF - all plans		WSP		
	Male	Female	Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
81	0.072041	0.050780	81	0.136043	0.096337	0.122797	0.062506	0.122797	0.062506	0.089718	0.062506	0.089718	0.062506	0.089718	0.062506
82	0.080486	0.056294	82	0.150590	0.107303	0.136043	0.069517	0.136043	0.069517	0.099779	0.069517	0.099779	0.069517	0.099779	0.069517
83	0.089718	0.062506	83	0.166420	0.119154	0.150590	0.077446	0.150590	0.077446	0.110757	0.077446	0.110757	0.077446	0.110757	0.077446
84	0.099779	0.069517	84	0.183408	0.131682	0.166420	0.086376	0.166420	0.086376	0.122797	0.086376	0.122797	0.086376	0.122797	0.086376
85	0.110757	0.077446	85	0.199769	0.144664	0.183408	0.096337	0.183408	0.096337	0.136043	0.096337	0.136043	0.096337	0.136043	0.096337
86	0.122797	0.086376	86	0.216605	0.157618	0.199769	0.107303	0.199769	0.107303	0.150590	0.107303	0.150590	0.107303	0.150590	0.107303
87	0.136043	0.096337	87	0.233662	0.170433	0.216605	0.119154	0.216605	0.119154	0.166420	0.119154	0.166420	0.119154	0.166420	0.119154
88	0.150590	0.107303	88	0.250693	0.182799	0.233662	0.131682	0.233662	0.131682	0.183408	0.131682	0.183408	0.131682	0.183408	0.131682
89	0.166420	0.119154	89	0.267491	0.194509	0.250693	0.144604	0.250693	0.144604	0.199769	0.144604	0.199769	0.144604	0.199769	0.144604
90	0.183408	0.131682	90	0.283905	0.205379	0.267491	0.157618	0.267491	0.157618	0.216605	0.157618	0.216605	0.157618	0.216605	0.157618
91	0.199769	0.144604	91	0.299852	0.215240	0.283905	0.170433	0.283905	0.170433	0.233662	0.170433	0.233662	0.170433	0.233662	0.170433
92	0.216605	0.157618	92	0.315296	0.223947	0.299852	0.182799	0.299852	0.182799	0.250693	0.182799	0.250693	0.182799	0.250693	0.182799
93	0.233662	0.170433	93	0.330207	0.231387	0.315296	0.194509	0.315296	0.194509	0.267491	0.194509	0.267491	0.194509	0.267491	0.194509
94	0.250693	0.182799	94	0.344556	0.237467	0.330207	0.205379	0.330207	0.205379	0.283905	0.205379	0.283905	0.205379	0.283905	0.205379
95	0.267491	0.194509	95	0.358628	0.244834	0.344556	0.215240	0.344556	0.215240	0.299852	0.215240	0.299852	0.215240	0.299852	0.215240
96	0.283905	0.205379	96	0.371685	0.254498	0.358628	0.223947	0.358628	0.223947	0.315296	0.223947	0.315296	0.223947	0.315296	0.223947
97	0.299852	0.215240	97	0.383040	0.266044	0.371685	0.231387	0.371685	0.231387	0.321387	0.231387	0.321387	0.231387	0.321387	0.231387
98	0.315296	0.223947	98	0.392003	0.279055	0.383040	0.237467	0.383040	0.237467	0.344556	0.237467	0.344556	0.237467	0.344556	0.237467
99	0.330207	0.231387	99	0.397886	0.293116	0.392003	0.244834	0.392003	0.244834	0.358628	0.244834	0.358628	0.244834	0.358628	0.244834
100	0.344556	0.237467	100	0.400000	0.307811	0.397886	0.254498	0.397886	0.254498	0.371685	0.254498	0.371685	0.254498	0.371685	0.254498
101	0.358628	0.244834	101	0.400000	0.322725	0.400000	0.266044	0.400000	0.266044	0.383040	0.266044	0.383040	0.266044	0.383040	0.266044
102	0.371685	0.254498	102	0.400000	0.337441	0.400000	0.279055	0.400000	0.279055	0.392003	0.279055	0.392003	0.279055	0.392003	0.279055
103	0.383040	0.266044	103	0.400000	0.351544	0.400000	0.293116	0.400000	0.293116	0.397886	0.293116	0.397886	0.293116	0.397886	0.293116
104	0.392003	0.279055	104	0.400000	0.364617	0.400000	0.307811	0.400000	0.307811	0.400000	0.307811	0.400000	0.307811	0.400000	0.307811
105	0.397886	0.293116	105	0.400000	0.376246	0.400000	0.322725	0.400000	0.322725	0.400000	0.322725	0.400000	0.322725	0.400000	0.322725
106	0.400000	0.307811	106	0.400000	0.386015	0.400000	0.337441	0.400000	0.337441	0.400000	0.337441	0.400000	0.337441	0.400000	0.337441
107	0.400000	0.322725	107	0.400000	0.393507	0.400000	0.351544	0.400000	0.351544	0.400000	0.351544	0.400000	0.351544	0.400000	0.351544
108	0.400000	0.337441	108	0.400000	0.398308	0.400000	0.364617	0.400000	0.364617	0.400000	0.364617	0.400000	0.364617	0.400000	0.364617
109	0.400000	0.351544	109	0.400000	0.400000	0.400000	0.376246	0.400000	0.376246	0.400000	0.376246	0.400000	0.376246	0.400000	0.376246
110	0.400000	0.364617	110	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

Probability of Disability									
PERS		TRRS		SERS		LEOFF		WSP	
Plan 1		Plan 2/3		Plan 1		Plan 2/3		Plan 1	
Age	Male	Female	Male	Female	Male	Female	Male	Female	Both
20	0.000000	0.000000	0.000000	0.000000	0.000013	0.000014	0.000003	0.000000	0.001000
21	0.000000	0.000000	0.000000	0.000000	0.000020	0.000020	0.000005	0.000004	0.000022
22	0.000000	0.000000	0.000000	0.000000	0.000029	0.000030	0.000008	0.000006	0.000022
23	0.000000	0.000000	0.000000	0.000000	0.000043	0.000043	0.000011	0.000009	0.000022
24	0.000000	0.000000	0.000000	0.000000	0.000062	0.000062	0.000016	0.000013	0.000022
25	0.000000	0.000000	0.000000	0.000000	0.000091	0.000092	0.000024	0.000019	0.000022
26	0.000000	0.000000	0.000069	0.000000	0.000106	0.000107	0.000027	0.000022	0.000024
27	0.000000	0.000000	0.000086	0.000000	0.000122	0.000123	0.000032	0.000026	0.000026
28	0.000000	0.000000	0.000096	0.000019	0.000141	0.000142	0.000036	0.000030	0.000028
29	0.000000	0.000000	0.000106	0.000037	0.000162	0.000164	0.000042	0.000034	0.000031
30	0.000000	0.000000	0.000115	0.000056	0.000187	0.000190	0.000048	0.000040	0.000033
31	0.000000	0.000000	0.000125	0.000074	0.000209	0.000212	0.000054	0.000044	0.000035
32	0.000000	0.000000	0.000135	0.000093	0.000233	0.000236	0.000060	0.000050	0.000037
33	0.000000	0.000000	0.000142	0.000126	0.000258	0.000262	0.000067	0.000055	0.000039
34	0.000000	0.000000	0.000149	0.000160	0.000288	0.000292	0.000074	0.000061	0.000042
35	0.000310	0.000319	0.000156	0.000194	0.000321	0.000326	0.000083	0.000068	0.000044
36	0.000367	0.000377	0.000164	0.000228	0.000340	0.000345	0.000088	0.000072	0.000050
37	0.000432	0.000445	0.000171	0.000262	0.000360	0.000365	0.000093	0.000077	0.000057
38	0.000508	0.000522	0.000192	0.000266	0.000382	0.000387	0.000099	0.000081	0.000066
39	0.000593	0.000610	0.000213	0.000271	0.000404	0.000410	0.000105	0.000086	0.000077
40	0.000762	0.000710	0.000235	0.000275	0.000428	0.000434	0.000111	0.000091	0.000088
41	0.000873	0.000823	0.000256	0.000279	0.000502	0.000509	0.000130	0.000107	0.000098
42	0.000983	0.001257	0.000277	0.000283	0.000588	0.000596	0.000152	0.000125	0.000109
43	0.001149	0.001315	0.000344	0.000345	0.000688	0.000698	0.000178	0.000146	0.000123
44	0.001315	0.001373	0.000410	0.000406	0.000806	0.000817	0.000208	0.000171	0.000138
45	0.001481	0.001431	0.000476	0.000467	0.000944	0.000957	0.000244	0.000201	0.000153
46	0.001647	0.001489	0.000542	0.000528	0.001054	0.001068	0.000272	0.000224	0.000197
47	0.001813	0.001547	0.000609	0.000589	0.001176	0.001192	0.000304	0.000250	0.000256
48	0.002056	0.002039	0.000713	0.000727	0.001312	0.001330	0.000339	0.000279	0.000242
49	0.002299	0.002531	0.000817	0.000865	0.001464	0.001483	0.000378	0.000311	0.000278

No TRS Plan 1 or PERS Plan 1 disabilities are assumed for members beyond 60 years of age
LEOFF Plan 1 disability retirements are assumed to continue after service retirement begins

Probability of Disablement

(Continued)

Age	PERS				TRS				SERS				LEOFF		WSP	
	Plan 1		Plan 2/3		Plan 1		Plan 2/3		Plan 2/3		Plan 1		Plan 2			
	Male	Female	Both	Both	Both	Both										
50	0.002542	0.003023	0.000922	0.001003	0.001634	0.001656	0.000422	0.000347	0.001102	0.000738	0.073417	0.000547	0.001000	0.001000		
51	0.002784	0.003514	0.001026	0.001141	0.001985	0.001911	0.000487	0.000401	0.001230	0.000897	0.079508	0.000628	0.001000	0.001000		
52	0.003027	0.004006	0.001131	0.001278	0.002177	0.002207	0.000563	0.000463	0.001357	0.001057	0.085561	0.000722	0.001000	0.001000		
53	0.004768	0.004808	0.001631	0.001780	0.002512	0.002546	0.000649	0.000534	0.002048	0.001664	0.091576	0.000851	0.001000	0.001000		
54	0.006505	0.005610	0.002130	0.002281	0.002900	0.002939	0.000750	0.000617	0.002738	0.002270	0.097553	0.000951	0.001000	0.001000		
55	0.008240	0.006411	0.002630	0.002782	0.003347	0.003393	0.000866	0.000712	0.003428	0.002876	0.103493	0.000951	0.001000	0.001000		
56	0.009972	0.007211	0.003129	0.003283	0.003580	0.003629	0.000926	0.000762	0.004117	0.003482	0.109395	0.000951	0.001000	0.001000		
57	0.011701	0.008011	0.003628	0.003783	0.003829	0.003881	0.000990	0.000814	0.004805	0.004087	0.115262	0.000951	0.001000	0.001000		
58	0.011701	0.007508	0.004955	0.005084	0.004996	0.004151	0.001059	0.000871	0.006303	0.004588	0.121663	0.000951	0.001000	0.001000		
59	0.011701	0.007005	0.006280	0.006384	0.004381	0.004440	0.001133	0.000932	0.007799	0.005089	0.121663	0.000951	0.001000	0.001000		
60	0.011701	0.006502	0.007603	0.007681	0.004686	0.004750	0.001212	0.000997	0.009292	0.005589	0.121663	0.000951	0.001000	0.001000		
61	0.011701	0.005998	0.008925	0.008977	0.005219	0.005290	0.001349	0.001110	0.010783	0.006089	0.121663	0.000951	0.001000	0.001000		
62	0.011701	0.005495	0.010244	0.010271	0.005814	0.005892	0.001503	0.001237	0.012272	0.006589	0.121663	0.000951	0.001000	0.001000		
63	0.011701	0.005495	0.010244	0.010271	0.006475	0.006563	0.001674	0.001377	0.012272	0.006589	0.121663	0.000951	0.001000	0.001000		
64	0.011701	0.005495	0.010244	0.010271	0.007213	0.007311	0.001865	0.001534	0.012272	0.006589	0.121663	0.000951	0.001000	0.001000		
65	0.011701	0.005495	0.010244	0.010271	0.000000	0.000000	0.000000	0.000000	0.012272	0.006589	0.121663	0.000951	0.001000	0.001000		
66	0.011701	0.005495	0.010244	0.010271	0.000000	0.000000	0.000000	0.000000	0.012272	0.006589	0.121663	0.000951	0.001000	0.001000		
67	0.011701	0.005495	0.010244	0.010271	0.000000	0.000000	0.000000	0.000000	0.012272	0.006589	0.121663	0.000951	0.001000	0.001000		
68	0.011701	0.005495	0.010244	0.010271	0.000000	0.000000	0.000000	0.000000	0.012272	0.006589	0.121663	0.000951	0.001000	0.001000		
69	0.011701	0.005495	0.010244	0.010271	0.000000	0.000000	0.000000	0.000000	0.012272	0.006589	0.121663	0.000951	0.001000	0.001000		
70	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.121663	0.000951	0.001000	0.001000		

No TRS Plan 1 or PERS Plan 1 disabilities are assumed for members beyond 60 years of age
LEOFF Plan 1 disability retirements are assumed to continue after service retirement begins

Service Years	Probability of Termination						LEOFF - all plans	WSP - all plans	
	PERS - all plans		TRS - all plans		SERS - all plans				
Male	Female	Male	Female	Male	Female	Male	Female	Male & Female	Male & Female
0	0.2590	0.2639	0.0965	0.1000	0.2590	0.1945	0.1043	0.0243	0.0243
1	0.1546	0.1672	0.0600	0.0700	0.1609	0.1287	0.0469	0.0243	0.0243
2	0.1020	0.1172	0.0400	0.0550	0.1154	0.1007	0.0237	0.0243	0.0243
3	0.0769	0.0925	0.0400	0.0450	0.1007	0.0760	0.0208	0.0243	0.0243
4	0.0639	0.0769	0.0350	0.0400	0.0852	0.0658	0.0198	0.0243	0.0243
5	0.0531	0.0653	0.0300	0.0350	0.0728	0.0597	0.0194	0.0138	0.0138
6	0.0435	0.0587	0.0220	0.0300	0.0606	0.0531	0.0194	0.0138	0.0138
7	0.0407	0.0531	0.0210	0.0260	0.0559	0.0521	0.0194	0.0138	0.0138
8	0.0373	0.0469	0.0200	0.0200	0.0493	0.0483	0.0167	0.0138	0.0138
9	0.0354	0.0411	0.0190	0.0195	0.0464	0.0464	0.0167	0.0138	0.0138
10	0.0325	0.0387	0.0180	0.0190	0.0426	0.0450	0.0167	0.0087	0.0087
11	0.0310	0.0354	0.0180	0.0170	0.0402	0.0445	0.0142	0.0087	0.0087
12	0.0305	0.0315	0.0100	0.0140	0.0383	0.0440	0.0142	0.0087	0.0087
13	0.0286	0.0310	0.0100	0.0140	0.0373	0.0440	0.0142	0.0087	0.0087
14	0.0276	0.0300	0.0100	0.0140	0.0325	0.0421	0.0099	0.0087	0.0087
15	0.0266	0.0286	0.0100	0.0140	0.0296	0.0426	0.0099	0.0064	0.0064
16	0.0237	0.0262	0.0095	0.0110	0.0266	0.0378	0.0099	0.0064	0.0064
17	0.0213	0.0227	0.0090	0.0090	0.0242	0.0344	0.0070	0.0064	0.0064
18	0.0183	0.0198	0.0080	0.0090	0.0203	0.0310	0.0070	0.0064	0.0064
19	0.0149	0.0173	0.0070	0.0090	0.0159	0.0262	0.0070	0.0064	0.0064
20	0.0114	0.0144	0.0050	0.0050	0.0124	0.0203	0.0070	0.0019	0.0019
21	0.0095	0.0114	0.0050	0.0050	0.0114	0.0159	0.0070	0.0019	0.0019
22	0.0075	0.0095	0.0050	0.0050	0.0085	0.0129	0.0070	0.0019	0.0019
23	0.0060	0.0080	0.0050	0.0050	0.0065	0.0085	0.0070	0.0019	0.0019
24	0.0055	0.0055	0.0050	0.0050	0.0065	0.0075	0.0070	0.0019	0.0019
25	0.0050	0.0045	0.0050	0.0050	0.0050	0.0075	0.0070	0.0000	0.0000
26	0.0040	0.0040	0.0050	0.0050	0.0050	0.0075	0.0070	0.0000	0.0000
27	0.0040	0.0040	0.0050	0.0050	0.0050	0.0075	0.0070	0.0000	0.0000
28	0.0040	0.0040	0.0050	0.0050	0.0050	0.0075	0.0070	0.0000	0.0000
29	0.0040	0.0040	0.0050	0.0050	0.0050	0.0075	0.0070	0.0000	0.0000

Service Years	Probability of Termination						LEOFF - all plans Male & Female	WSP - all plans Male & Female
	PERS - all plans		TRS - all plans		SERS - all plans			
Male	Female	Male	Female	Male	Female	Male	Female	Male & Female
30	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
31	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
32	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
33	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
34	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
35	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
36	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
37	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
38	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
39	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
40	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
41	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
42	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
43	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
44	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
45	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
46	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
47	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
48	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
49	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000
50	0.0040	0.0040	0.0050	0.0050	0.0050	0.0050	0.0075	0.0000

Service Years	PERS		TRS		SERS		LEOFF		WSP	
	Plan 1		Plan 2		Plan 1		Plan 2		Plan 2	
	Male & Female									
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00
5	0.35	0.35	0.35	0.65	0.60	0.60	0.50	0.50	0.15	0.15
6	0.45	0.45	0.35	0.75	0.60	0.55	0.15	0.15	0.15	0.15
7	0.45	0.45	0.40	0.75	0.60	0.55	0.15	0.15	0.15	0.15
8	0.45	0.45	0.40	0.75	0.65	0.55	0.15	0.15	0.15	0.15
9	0.45	0.45	0.45	0.75	0.65	0.60	0.15	0.15	0.15	0.15
10	0.45	0.45	0.45	0.75	0.65	0.60	0.15	0.15	0.15	0.15
11	0.45	0.45	0.45	0.75	0.65	0.60	0.15	0.15	0.15	0.15
12	0.45	0.45	0.45	0.75	0.70	0.60	0.15	0.15	0.15	0.15
13	0.45	0.45	0.45	0.85	0.70	0.65	0.15	0.15	0.15	0.15
14	0.55	0.45	0.45	0.85	0.70	0.65	0.15	0.15	0.15	0.15
15	0.55	0.55	0.50	0.85	0.70	0.70	0.15	0.15	0.15	0.15
16	0.60	0.50	0.85	0.80	0.70	0.70	0.15	0.15	0.15	0.15
17	0.60	0.55	0.85	0.80	0.70	0.70	0.15	0.15	0.15	0.15
18	0.60	0.55	0.85	0.85	0.70	0.70	0.35	0.35	0.35	0.35
19	0.60	0.60	0.60	0.85	0.85	0.70	0.35	0.35	0.35	0.35
20	0.60	0.60	0.90	0.90	0.75	0.75	0.75	0.75	0.75	0.75
21	0.60	0.60	0.90	0.90	0.80	0.80	1.00	1.00	1.00	1.00
22	0.60	0.60	0.90	0.90	0.80	0.80	1.00	1.00	1.00	1.00
23	0.60	0.60	0.90	0.90	0.80	0.80	1.00	1.00	1.00	1.00
24	0.60	0.60	0.90	0.90	0.80	0.80	1.00	1.00	1.00	1.00
25	0.65	0.65	0.65	0.90	0.90	0.80	1.00	1.00	1.00	1.00
26	0.65	0.65	0.65	0.95	0.95	1.00	1.00	1.00	1.00	1.00
27	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00
28	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00
29	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00

For TRS & SERS, service is as of the beginning of the year, and exit is assumed to occur at the end of the year.

Service Years	PERS	Probability of Vesting upon Termination									
		Plan 1		Plan 2		TRS		SERS		LEOFF	
		Male & Female	Male & Female	Male & Female	Male & Female	Plan 1	Plan 2	Plan 2	Plan 2	Male & Female	Male & Female
30		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
31		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
32		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
33		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
34		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
35		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
36		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
37		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
38		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
39		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
40		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
41		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
42		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
43		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
44		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
45		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
46		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
47		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
48		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
49		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
50		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00

For TRS & SERS, service is as of the beginning of the year, and exit is assumed to occur at the end of the year.

Service Years	PERS - All Plans			TRS - All Plans			SERS - All Plans			LEOFF - All Plans			WSP - All Plans		
	% Increase	Salary Ratio	% Increase	Salary Ratio	% Increase	Salary Ratio	% Increase	Salary Ratio	% Increase	Salary Ratio	% Increase	Salary Ratio	% Increase	Salary Ratio	
1	6.10%	1.275	6.20%	1.476	7.00%	1.280	11.70%	1.810	6.00%	1.678					
2	4.80%	1.201	4.40%	1.390	3.90%	1.196	8.10%	1.621	6.00%	1.583					
3	3.80%	1.146	4.20%	1.331	2.80%	1.151	6.60%	1.499	6.00%	1.493					
4	2.90%	1.104	3.50%	1.278	2.30%	1.120	4.50%	1.406	6.00%	1.409					
5	2.10%	1.073	3.10%	1.235	2.20%	1.095	3.20%	1.346	6.00%	1.329					
6	1.30%	1.051	2.70%	1.197	1.50%	1.071	2.50%	1.304	6.00%	1.254					
7	1.00%	1.038	2.60%	1.166	1.20%	1.055	2.20%	1.272	1.30%	1.183					
8	0.80%	1.027	2.30%	1.136	1.00%	1.043	2.00%	1.245	1.30%	1.168					
9	0.60%	1.019	2.10%	1.111	0.80%	1.032	2.00%	1.221	1.30%	1.153					
10	0.40%	1.013	1.90%	1.088	0.70%	1.024	2.00%	1.197	1.30%	1.138					
11	0.30%	1.009	1.70%	1.068	0.70%	1.017	1.90%	1.173	1.30%	1.123					
12	0.20%	1.006	1.60%	1.050	0.30%	1.010	1.80%	1.151	1.30%	1.109					
13	0.10%	1.004	1.40%	1.033	0.30%	1.007	1.70%	1.131	1.30%	1.095					
14	0.10%	1.003	0.90%	1.019	0.20%	1.004	1.60%	1.112	1.30%	1.081					
15	0.10%	1.002	0.80%	1.010	0.10%	1.002	1.60%	1.095	1.30%	1.067					
16	0.10%	1.001	0.20%	1.002	0.10%	1.001	1.60%	1.077	1.30%	1.053					
17	0.00%	1.000	0.00%	1.000	0.00%	1.000	1.60%	1.060	1.30%	1.040					
18	0.00%	1.000	0.00%	1.000	0.00%	1.000	1.60%	1.044	1.30%	1.026					
19	0.00%	1.000	0.00%	1.000	0.00%	1.000	1.40%	1.027	1.30%	1.013					
20	0.00%	1.000	0.00%	1.000	0.00%	1.000	1.30%	1.013	0.00%	1.000					
21+	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000					

	Percent Married																
Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Both	Both	
	PERS 1	PERS 2	PERS 3	PERS 1	TRS 1	TRS 2	TRS 3	SERS 2	SERS 3	LEOFF 1	LEOFF 2	WSP					
20	0.00	0.00	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	
21	0.00	0.00	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	
22	0.00	0.00	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	
23	0.00	0.00	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	
24	0.00	0.00	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	0.20	0.35	0.00	0.00	
25	0.00	0.00	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	
26	0.00	0.00	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	
27	0.00	0.00	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	
28	0.00	0.00	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	
29	0.00	0.00	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	0.48	0.63	0.00	0.00	
30	0.00	0.00	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	
31	0.00	0.00	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	
32	0.00	0.00	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	
33	0.00	0.00	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	
34	0.00	0.00	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	0.64	0.73	0.00	0.00	
35	0.00	0.00	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	
36	0.00	0.00	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	
37	0.00	0.00	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	
38	0.00	0.00	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	
39	0.00	0.00	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	0.72	0.75	0.00	0.00	
40	0.45	0.10	0.05	0.00	0.77	0.76	0.65	0.55	0.00	0.77	0.76	0.05	0.00	0.77	0.76	0.00	0.60
41	0.45	0.10	0.05	0.00	0.77	0.76	0.65	0.55	0.00	0.77	0.76	0.05	0.00	0.77	0.76	0.00	0.60
42	0.45	0.10	0.05	0.00	0.77	0.76	0.65	0.55	0.00	0.77	0.76	0.05	0.00	0.77	0.76	0.00	0.60
43	0.45	0.10	0.05	0.00	0.77	0.76	0.65	0.55	0.00	0.77	0.76	0.05	0.00	0.77	0.76	0.00	0.60
44	0.45	0.10	0.05	0.00	0.77	0.76	0.65	0.55	0.00	0.77	0.76	0.05	0.00	0.77	0.76	0.00	0.60
45	0.55	0.40	0.05	0.00	0.79	0.76	0.65	0.55	0.00	0.79	0.76	0.05	0.00	0.79	0.76	0.00	0.60
46	0.55	0.40	0.05	0.00	0.79	0.76	0.65	0.55	0.00	0.79	0.76	0.05	0.00	0.79	0.76	0.00	0.60
47	0.55	0.40	0.05	0.00	0.79	0.76	0.65	0.55	0.00	0.79	0.76	0.05	0.00	0.79	0.76	0.00	0.60
48	0.55	0.40	0.05	0.00	0.79	0.76	0.65	0.55	0.00	0.79	0.76	0.05	0.00	0.79	0.76	0.00	0.60
49	0.55	0.40	0.05	0.00	0.79	0.76	0.65	0.55	0.00	0.79	0.76	0.05	0.00	0.79	0.76	0.00	0.60
50	0.65	0.45	0.20	0.10	0.80	0.76	0.65	0.45	0.00	0.15	0.80	0.20	0.10	0.80	0.76	0.25	0.60

Percent Married

(Continued)

Percent Married

(Continued)

Portability Load			
System	Plan 1	Plan 2	Plan 3
PERS	0.2%	0.3%	0.3%
TRS	0.3%	0.1%	0.1%
SERS	N/A	0.3%	0.3%
LEOFF	N/A	0.1%	N/A
WSP	0.0%	N/A	N/A

AFC Load	
System/Plan	Load
PERS 1	5.0%
TRS 1	1.0%
WSP	7.5%

Certain and Life Annuities: Years Certain		
System	Plan 1	Plan 2
PERS	3	3
TRS	11*	4
SERS	N/A	3
LEOFF	N/A	5

*Only disabled members get this without a reduction in their benefit

The certain period applies to only the "annuity" portion of the benefit,

typically 30% of the total benefit

Military Service			
	Percent with Military Service	Average Military Service Months	Overall Average Additional Service Years
PERS 1*			
Males	48%	37	1.48
Females	1%	35	0.03
WSP**	43%	32	1.15

Members with 25 years of service may receive up to 5 years of military service credit

*Members of PERS Plan 1 may use certain prior military service as well as interruptive military service

**Members of WSP Plan 1 may use all prior military service as well as interruptive military service

Members of WSP Plan 2 (those commissioned on or after January 1, 2003) may use only

interruptive military service

Member/Beneficiary Age Difference (In Years)		
System	Male Member	Female Member
PERS	3	(2)
TRS	3	(2)
SERS	3	(2)
LEOFF	4	(4)
WSP	3	(2)

Age difference is Member age minus Beneficiary age

Summary of Plan Provisions

Summary of Plan Provisions - PERS			
	Plan 1	Plan 2	Plan 3
Effective Date of Plan	10/1/47	10/1/77	3/1/02
Date Closed to New Entrants	9/30/77	Open	Open
Statutory Reference	Chapter 41.40 RCW	Chapter 41.40 RCW	Chapter 41.40 RCW
Normal Retirement Eligibility (age/service)	60/5, 55/25, Any Age/30	65/5	65/10 or vested
Accrued Benefit Formula	2% x YOS x AFC; Maximum 60% AFC	2% x YOS x AFC	1% x YOS x AFC; 0.25% per month pre-retirement COLA with 20 years of service
Computation of AFC	Annual average of the greatest compensation earnable during a 24 consecutive month period	Average compensation earnable for the highest 60 consecutive months	Average compensation earnable for the highest 60 consecutive months
Credited Service	Monthly, based on hours worked each month (school yr. for edu. employ.).	Monthly, based on hours worked each month (school yr. for edu. employ.).	Monthly, based on hours worked each month (school yr. for edu. employ.).
Vesting	5 years	5 years	10 yrs. (5 under select circumstances)
Vested Benefits Upon Termination	Refund of employee contributions plus interest, or deferred retirement allowance	Refund of employee contributions plus interest, or deferred retirement allowance	Refund of employee contributions plus interest, or deferred retirement allowance
Early Retirement Eligibility (age/service)	n/a	55/20	55/10
Early Retirement Reduction Factors	n/a	3% ERF with 30 YOS, otherwise actuarial	3% ERF with 30 YOS, otherwise actuarial
Disability Retirement Benefit	Non-duty: reduced accrued benefit; Duty: temporary annuity plus deferred retirement allowance	Accrued benefit, actuarially reduced	Accrued benefit, actuarially reduced
COLA	\$1.18 per month/YOS*** on 7/1/03	Lesser of CPI* or 3%	Lesser of CPI* or 3%
Minimum Benefit per Month / YOS	\$31.76*** on 7/1/03	n/a	n/a
Gain-Sharing Benefit Provisions **	Chapter 41.31 RCW; An additional increase in the COLA amount	n/a	Chapter 41.31A RCW; Cash transfer to the defined contribution account
Changes in Plan Provisions Since Last Valuation	\$150k death benefit (C 402 L 03)	\$150k death benefit (C 402 L 03)	\$150k death benefit (C 402 L 03)
Benefits not Included in This Valuation	Gain-sharing; Post-retirement employment	None	Gain-sharing

*COLA increases by 3% annually; Minimum increases by amount of COLA annually

**CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items

***Gain-sharing is calculated every odd year; based on half the 4 year compound average annual return in excess of 10%

Summary of Plan Provisions - TRS

(Continued)

	Plan 1	Plan 2	Plan 3
Effective Date of Plan	3/1/38	10/1/77	7/1/96
Date Closed to New Entrants	9/30/77	6/30/96	Open
Statutory Reference	Chapter 41.32 RCW	Chapter 41.32 RCW	Chapter 41.32 RCW
Normal Retirement Eligibility (age/service)	60/5, 55/25, Any Age/30	65/5	65/10 or vested
Accrued Benefit Formula	2% x YOS x AFC; Maximum 60% AFC	2% x YOS x AFC	1% x YOS x AFC; 0.25% per month pre-retirement COLA with 20 years of service
Computation of AFC	Annual average earnable compensation for the two highest consecutive service credit years	Average compensation earnable for the highest 60 consecutive months	Average compensation earnable for the highest 60 consecutive months
Credited Service	Yearly, based on days worked each year	Monthly, based on number of months and hours worked during school year	Monthly, based on number of months and hours worked during school year
Vesting	5 years	5 years	10 yrs. (5 under select circumstances)
Vested Benefits Upon Termination	Refund of employee contributions plus interest, or deferred retirement allowance	Refund of employee contributions plus interest, or deferred retirement allowance	Refund of employee contributions plus interest, or deferred retirement allowance
Early Retirement Eligibility (age/service)	n/a	55/20	55/10
Early Retirement Reduction Factors	n/a	3% ERF with 30 YOS, otherwise actuarial	3% ERF with 30 YOS, otherwise actuarial
Disability Retirement Benefit	Accrued benefit, actuarially reduced	Accrued benefit, actuarially reduced	Accrued benefit, actuarially reduced
COLA	\$1.18 per month/YOS*** on 7/1/03	Lesser of CPI* or 3%	Lesser of CPI* or 3%
Minimum Benefit per Month / YOS	\$31.76*** on 7/1/03	n/a	n/a
Gain-Sharing Benefit Provisions **	Chapter 41.31 RCW; An additional increase in the COLA amount	n/a	Chapter 41.31A RCW; Cash transfer to the defined contribution account
Changes in Plan Provisions Since Last Valuation	\$150k death benefit (C 402 L 03)	\$150k death benefit (C 402 L 03)	\$150k death benefit (C 402 L 03)
Benefits not Included in This Valuation	Gain-sharing; Post-retirement employment	None	Gain-sharing

*COLA increases by 3% annually; Minimum increases by a amount of COLA annually

**CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items

***Gain-sharing is calculated every odd year; based on half the 4 year compound average annual return in excess of 10%

Summary of Plan Provisions - SERS

(Continued)

	Plan 2	Plan 3
Effective Date of Plan	9/1/00	9/1/00
Date Closed to New Entrants	9/1/00	Open
Statutory Reference	Chapter 41.35 RCW	Chapter 41.35 RCW
Normal Retirement Eligibility (age/service)	65/5	65/10 or vested
Accrued Benefit Formula	2% x YOS x AFC	1% x YOS x AFC; 0.25% per month pre-retirement COLA with 20 years of service
Computation of AFC	Average compensation earnable for the highest 60 consecutive months	Average compensation earnable for the highest 60 consecutive months
Credited Service	Monthly, based on number of months and hours worked during school year	Monthly, based on number of months and hours worked during school year
Vesting	5 years	10 yrs. (5 under select circumstances)
Vested Benefits Upon Termination	Refund of employee contributions plus interest, or deferred retirement allowance	Refund of employee contributions plus interest, or deferred retirement allowance
Early Retirement Eligibility (age/service)	55/20	55/10
Early Retirement Reduction Factors	3% ERF with 30 YOS, otherwise actuarial	3% ERF with 30 YOS, otherwise actuarial
Disability Retirement Benefit	Accrued benefit, actuarially reduced	Accrued benefit, actuarially reduced
COLA	Lesser of CPI* or 3%	Lesser of CPI* or 3%
Minimum Benefit per Month / YOS	n/a	n/a
Gain-Sharing Benefit Provisions **	n/a	Chapter 41.31A RCW; Cash transfer to the defined contribution account
Changes in Plan Provisions Since Last Valuation	\$150k death benefit (C 402 L 03)	\$150k death benefit (C 402 L 03)
Benefits not Included in This Valuation	None	Gain-sharing

*CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items

**Gain-sharing is calculated every odd year; based on half the 4 year compound average annual return in excess of 10%

Summary of Plan Provisions - LEOFF

(Continued)

	Plan 1	Plan 2
Effective Date of Plan	3/1/ 70	10/1/77
Date Closed to New Entrants	9/30/77	Open
Statutory Reference	Chapter 41.26 RCW	Chapter 41.26 RCW
Normal Retirement Eligibility (age/service)	50/5	53/5
Accrued Benefit Formula	accrual % (1%, 1.5%, 2%) x YOS (5, 10, 20) x FAS; Maximum 60% FAS	1% x YOS x AFC; 0.25% per month pre-retirement COLA with 20 years of service
Computation of FAS/AFC	The basic salary attached to the position or rank at retirement if held for at least 12 months	Average compensation earnable for the highest 60 consecutive months
Credited Service	Monthly, based on hours worked each month	Monthly, based on hours worked each month
Vesting	5 years	5 years
Vested Benefits Upon Termination	Refund of employee contributions plus interest, or deferred retirement allowance	Refund of employee contributions (x 150% if 10 YOS) plus interest, or deferred retirement allowance
Early Retirement Eligibility (age/service)	n/a	50/20
Early Retirement Reduction Factors	n/a	3% ERF with 20 YOS
Disability Retirement Benefit	50% FAS, (max 60% if children)	Accrued benefit, actuarially reduced
COLA	Full CPI*	Lesser of CPI* or 3%
Minimum Benefit per Month / YOS	n/a	n/a
Gain-Sharing Benefit Provisions	n/a	n/a
Changes in Plan Provisions Since Last Valuation	None	Fish & Wildlife enforcement officers transferred into LEOFF2 (C 388 L03)
Benefits not Included in This Valuation	None	None

*CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items

Summary of Plan Provisions - WSP

(Continued)

	Plan 1	Plan 2
Effective Date of Plan	6/12/47	1/1/03
Date Closed to New Entrants	12/31/02	Open
Statutory Reference	Chapter 43.43 RCW	Chapter 43.43 RCW
Normal Retirement Eligibility (age/service)	Age 55, Any Age/25, Mandatory at 60	Age 55, Any Age/25, Mandatory at 60
Accrued Benefit Formula	2% x YOS x AFC; Maximum 75% AFC	2% x YOS x AFC; Maximum 75% AFC
Computation of AFS	Average monthly salary of the highest two consecutive years	Average monthly salary of the highest 60 consecutive months
Credited Service	Monthly, based on hours worked each month	Monthly, based on hours worked each month
Vesting	5 years	5 years
Vested Benefits Upon Termination	Refund of employee contributions plus interest, or deferred retirement allowance	Refund of employee contributions plus interest, or deferred retirement allowance
Early Retirement Eligibility (age/service)	n/a	n/a
Early Retirement Reduction Factors	n/a	n/a
Disability Retirement Benefit	50% comp with offsets, paid from WSP operational funds	50% comp with offsets, paid from WSP operational funds
COLA	Lesser of CPI* or 3%	Lesser of CPI* or 3%
Minimum Benefit per Month/YOS**	\$23.05 on 1/1/03	\$23.05 on 1/1/03
Gain-Sharing Benefit Provisions	n/a	n/a
Changes in Plan Provisions Since Last Valuation	None	None
Benefits not Included in This Valuation	None	None

*CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items

**Amount increases by 3% annually

Age/Service Distributions

		Age and Service Distribution of Active Members (Number of Actives and Average Salary)												
		Attained Years of Service												
		5-9 10-14 15-19 20-24 25-29 30-34 35-39 40 & Over												
PERS Plan 1:	Attained Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over
	Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0
	25-29	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	30-34	\$0	0	0	0	0	0	0	0	0	0	0	0	0
	35-39	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	40-44	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	45-49	\$32,000	\$0	\$29,394	\$27,523	\$19,000	\$33,416	\$38,897	\$47,132	\$50,026	\$52,349	\$0	\$0	\$46,259
	50-54	55	59	59	68	61	312	407	469	417	1,532	74	0	3,480
	55-59	\$30,386	\$31,730	\$29,791	\$31,451	\$29,441	\$34,617	\$36,715	\$42,231	\$48,046	\$51,382	\$55,150	\$0	\$45,005
	60-64	\$34,967	\$32,693	\$29,653	\$34,586	\$33,139	\$36,242	\$40,780	\$45,338	\$49,352	\$54,273	\$55,055	\$57,187	\$0
	65-69	50	97	88	83	81	401	675	907	905	2,169	919	136	2
	70 & Over	\$31,904	\$34,411	\$36,847	\$39,353	\$39,246	\$39,245	\$40,751	\$45,014	\$47,630	\$52,184	\$55,708	\$54,481	\$43,277
Average:	Age	54.6	Number of Participants:										Males	9,586
	Service	21.1	Vested										Females	12,151
Total		155	310	327	317	321	1,513	2,321	2,786	2,726	8,287	2,282	343	49
		\$32,766	\$32,828	\$31,960	\$35,050	\$34,924	\$36,849	\$40,014	\$44,342	\$47,698	\$51,733	\$54,123	\$46,445	\$47,080
														21,737

**Age and Service Distribution of Active Members
(Number of Actives and Average Salary)**

(Continued)

PERS Plan 2:

PERS Plan 2: Attained Age	Attained Years of Service									Total			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over
Under 25	950	1,418	661	318	155	43	0	0	0	0	0	0	0
25-29	\$26,056	\$25,621	\$28,185	\$30,356	\$30,835	\$32,755	\$0	\$0	\$0	\$0	\$0	\$0	\$26,955
30-34	885	2,124	1,802	1,341	1,018	1,187	32	0	0	0	0	0	8,389
35-39	\$30,013	\$31,222	\$33,264	\$35,059	\$37,009	\$38,108	\$39,341	\$0	\$0	\$0	\$0	\$0	\$33,860
40-44	875	1,907	1,746	1,538	1,450	3,856	1,149	20	0	0	0	0	12,541
45-49	685	1,607	1,502	1,359	1,345	4,200	4,465	2,733	1,030	12	0	0	18,938
50-54	\$32,144	\$34,002	\$36,407	\$38,681	\$40,665	\$43,559	\$48,054	\$50,719	\$48,002	\$52,247	\$0	\$0	\$43,553
55-59	592	1,437	1,456	1,280	1,343	4,396	4,901	3,510	2,347	132	0	0	21,394
60-64	\$32,591	\$35,259	\$37,647	\$39,239	\$40,881	\$43,233	\$47,972	\$51,507	\$54,573	\$53,645	\$0	\$0	\$45,387
65-69	403	1,070	1,048	980	886	3,530	4,288	3,126	2,388	184	1	0	17,904
70 & Over	\$33,380	\$34,981	\$38,420	\$38,782	\$41,588	\$44,081	\$47,095	\$50,483	\$53,774	\$54,852	*	\$0	\$45,797
Total	5,478	12,105	10,640	8,998	8,247	24,703	23,118	14,293	8,797	553	7	0	116,939
Average:	Age	44.0	Number of Participants:			Vested	68,372	Males	56,235	Females	60,704		\$42,352
	Service	8.4				Not Vested	48,567						

**Age and Service Distribution of Active Members
(Number of Actives and Average Salary)**

(Continued)

PERS Plan 3:**Attained Age**

	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	Total
Under 25	327	85	27	12	6	3	0	0	0	0	0	0	0	460
25-29	\$27,777	\$28,242	\$30,838	\$29,792	\$31,501	\$39,065	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$28,217
298	155	150	125	116	194	3	0	0	0	0	0	0	0	1,041
30-34	\$30,058	\$34,294	\$34,714	\$38,000	\$39,052	\$39,852	\$39,070	\$0	\$0	\$0	\$0	\$0	\$0	\$35,167
237	145	148	175	182	650	260	2	0	0	0	0	0	0	1,799
31,056	\$35,908	\$38,560	\$40,553	\$42,253	\$44,164	\$46,084	\$38,374	\$0	\$0	\$0	\$0	\$0	\$0	\$41,037
35-39	176	113	128	102	112	672	767	144	4	0	0	0	0	2,218
31,582	\$42,019	\$40,055	\$41,316	\$45,099	\$46,943	\$50,707	\$51,955	\$59,143	\$0	\$0	\$0	\$0	\$0	\$46,373
40-44	155	124	114	122	116	632	947	613	148	3	0	0	0	2,974
31,875	\$36,179	\$39,775	\$39,431	\$41,487	\$47,196	\$50,299	\$53,290	\$52,566	\$44,188	\$0	\$0	\$0	\$0	\$47,621
45-49	161	110	107	92	100	578	878	658	415	16	0	0	0	3,115
33,295	\$38,135	\$40,089	\$39,869	\$43,154	\$45,152	\$51,765	\$54,021	\$54,939	\$55,908	\$0	\$0	\$0	\$0	\$48,994
50-54	98	60	71	72	83	419	660	476	321	24	1	0	0	2,285
34,012	\$41,724	\$39,318	\$41,954	\$43,763	\$44,524	\$49,059	\$53,018	\$57,608	\$63,824	*	\$0	\$0	\$0	\$48,854
55-59	46	23	33	20	34	244	358	267	172	16	0	0	0	1,213
35,535	\$42,138	\$39,826	\$39,171	\$39,353	\$43,298	\$46,432	\$49,411	\$59,105	\$58,506	\$0	\$0	\$0	\$0	\$47,421
60-64	22	7	12	9	5	50	99	90	55	4	0	0	0	353
27,725	\$38,026	\$43,154	\$33,996	\$30,286	\$39,528	\$44,975	\$48,381	\$57,592	\$52,800	\$0	\$0	\$0	\$0	\$45,364
65-69	5	2	4	2	1	5	5	11	3	0	0	0	0	38
28,833	\$29,143	\$44,248	\$20,234	*	\$67,566	\$36,017	\$51,101	\$48,945	\$0	\$0	\$0	\$0	\$0	\$43,964
70 & Over	1	0	1	1	1	4	0	1	4	0	0	0	0	13
*	*	\$0	*	*	*	\$29,324	\$0	*	\$39,376	\$0	\$0	\$0	\$0	\$35,254
Total	1,526	824	795	732	756	3,451	3,977	2,262	1,122	63	1	0	0	15,509
	\$30,845	\$36,589	\$38,381	\$39,707	\$42,008	\$45,111	\$49,713	\$52,677	\$56,102	\$58,828	*	\$0	\$0	\$45,638
Average:	Age	42.7	Number of Participants:			Vested	10,455	Males			1	0	0	460
	Service	9.2	Not Vested			Not Vested	5,054	Females			0	0	0	353

**Age and Service Distribution of Active Members
(Number of Actives and Average Salary)**

(Continued)

TRS Plan 1:
At attained age

	At attained age	Attained Years of Service										Total			
		0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	Total
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30-34	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
35-39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40-44	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
45-49	4	7	2	3	6	39	54	99	243	550	0	0	0	0	1,007
50-54	\$37,000	\$38,315	\$45,350	\$38,827	\$49,065	\$47,066	\$51,130	\$55,151	\$59,757	\$63,033	\$0	\$0	\$0	\$59,745	
55-59	17	23	25	25	28	162	398	687	676	1,358	867	126	0	4,392	
60-64	6	6	10	9	9	51	133	195	179	316	191	141	19	1,265	\$59,247
65-69	\$37,662	\$42,434	\$43,592	\$57,521	\$44,091	\$49,972	\$53,647	\$54,946	\$58,498	\$60,237	\$62,387	\$61,305	\$61,031	\$58,067	
70 & Over	0	0	1	0	0	0	1	6	16	13	47	29	14	20	168
	\$0	\$0	*	\$0	\$0	\$0	*	\$49,420	\$58,449	\$50,432	\$55,998	\$61,879	\$59,997	\$55,775	
Total	53	71	66	68	79	413	979	1,552	1,923	5,347	1,576	285	44	12,456	
	\$37,364	\$42,052	\$45,052	\$45,422	\$45,226	\$49,053	\$53,148	\$56,459	\$58,905	\$62,441	\$62,952	\$61,581	\$60,371	\$59,496	
Average:	Age Service	54.6 23.4	Number of Participants:	Vested Not Vested	12,096 360	Males Females	3,847 8,609								

*Salary committed for privacy reasons

**Age and Service Distribution of Active Members
(Number of Actives and Average Salary)**

TRS Plan 2:
At Attained Age

	At Attained Age	Attained Years of Service										Total		
		0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-29	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30-34	6	13	12	17	12	404	42	0	0	0	0	0	0	506
35-39	22	19	23	21	26	382	315	20	0	0	0	0	0	828
40-44	21	45	29	40	27	355	333	210	16	0	0	0	0	1,076
45-49	29	37	46	45	45	478	429	242	234	2	0	0	0	1,587
50-54	20	17	34	34	28	475	588	293	186	6	0	0	0	1,681
55-59	5	11	12	15	12	357	474	285	193	6	0	0	0	1,370
60-64	3	5	4	4	8	109	229	164	132	2	0	0	0	658
65-69	0	0	1	0	1	12	37	16	22	1	0	0	0	90
70 & Over	0	0	0	1	0	3	0	2	2	0	0	0	0	8
Total	106	147	161	175	159	2,580	2,447	1,232	785	17	0	0	0	7,809
	\$38,272	\$41,909	\$41,418	\$43,958	\$43,232	\$46,875	\$52,456	\$57,444	\$59,599	\$53,749	\$0	\$0	\$0	\$51,123

Average: Age 48.6 Number of Participants: Vested 7,005 Males 2,049
Service 11.3 Not Vested 804 Females 5,760

*Salary omitted for privacy reasons

Age and Service Distribution of Active Members
(Number of Actives and Average Salary)

(Continued)

TRS Plan 3:

Attained Age	Attained Years of Service									Total			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over
Under 25	652	407	65	1	0	0	0	0	0	0	0	0	0
25-29	\$36,926	\$31,758	\$21,821	*	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,760
30-34	567	808	757	875	902	3,108	357	0	0	0	0	0	7,374
35-39	\$37,307	\$35,680	\$36,596	\$37,752	\$39,310	\$43,214	\$49,283	\$0	\$0	\$0	\$0	\$0	\$40,423
40-44	\$37,479	\$36,475	\$38,139	\$38,805	\$41,764	\$46,418	\$53,100	\$58,987	\$62,609	\$0	\$0	\$0	\$45,688
45-49	343	420	368	396	338	1,378	1,675	1,358	1,521	21	0	0	7,818
50-54	\$37,587	\$37,660	\$39,524	\$40,787	\$42,522	\$47,204	\$54,173	\$58,871	\$61,178	\$57,833	\$0	\$0	\$51,647
55-59	126	147	133	128	106	487	752	635	483	8	0	0	3,005
60-64	\$41,741	\$45,371	\$45,166	\$45,635	\$48,000	\$50,724	\$55,525	\$59,986	\$61,976	\$60,093	\$0	\$0	\$54,519
65-69	\$37,735	\$48,743	\$46,040	\$47,681	\$49,143	\$52,370	\$57,672	\$58,877	\$61,742	\$0	0	0	614
70 & Over	0	0	2	1	2	1	1	0	1	0	0	0	8
Total	3,717	4,606	3,974	3,683	3,063	9,938	8,454	5,023	3,299	41	0	0	45,798
	\$37,503	\$35,663	\$37,039	\$38,408	\$40,583	\$45,640	\$53,338	\$59,137	\$61,532	\$59,582	\$0	\$0	\$46,369
Average:	Age Service	40.6 7.9	Number of Participants:	Vested Not Vested	17,154 28,644	Males Females	13,537 32,261						

*Salary omitted for privacy reasons

Age and Service Distribution of Active Members (Number of Actives and Average Salary)

(Continued)

SERS Plan Z:

Attained Age

Attained Age	Attained Years of Service										Total			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
Under 25	12	17	80	77	25	9	0	0	0	0	0	0	0	220
25-29	\$17,500	\$19,504	\$18,945	\$19,524	\$25,377	\$24,091	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,054
30-34	\$18,438	\$14,829	\$18,966	\$21,108	\$23,051	\$21,623	\$22,555	\$0	\$0	\$0	\$0	\$0	\$0	\$664
35-39	\$17,839	\$17,219	\$19,633	\$21,977	\$22,081	\$24,012	\$27,493	\$32,653	\$0	\$0	\$0	\$0	\$0	\$20,637
40-44	\$18,199	\$15,700	\$16,651	\$18,544	\$19,469	\$22,012	\$26,930	\$29,420	\$25,600	\$0	\$0	\$0	\$0	\$1,128
45-49	\$18,251	\$15,024	\$16,019	\$18,720	\$18,713	\$20,706	\$24,170	\$29,944	\$38,181	\$0	\$0	\$0	\$0	\$22,354
50-54	\$18,209	\$14,701	\$16,803	\$18,037	\$18,621	\$20,412	\$22,633	\$29,917	\$35,388	\$43,894	\$0	\$0	\$0	\$4,149
55-59	\$17,740	\$15,398	\$18,558	\$19,900	\$19,982	\$21,065	\$22,664	\$27,921	\$31,296	\$32,800	\$0	\$0	\$0	\$20,323
60-64	\$18,250	\$13,518	\$18,254	\$19,745	\$19,676	\$21,731	\$22,967	\$26,394	\$27,833	\$34,322	\$0	\$0	\$0	\$5,095
65-69	\$19,000	\$11,553	\$14,946	\$13,735	\$15,937	\$21,143	\$21,859	\$28,176	\$26,834	\$34,600	\$0	\$0	\$0	\$20,701
70 & Over	\$19,000	\$12,538	\$12,333	\$14,381	\$15,787	\$14,581	\$18,799	\$22,821	\$25,636	\$0	\$0	\$0	\$0	\$17,145
Total	330	796	2,151	3,064	2,185	6,911	4,384	1,971	1,027	51	0	0	0	22,870
Average:	Age	47.5	Number of Participants:										Males	5,160
	Service	77	Vested										Females	17,710
			Not Vested										9,335	
													\$21,593	

Age and Service Distribution of Active Members
(Number of Actives and Average Salary)

(Continued)

SERS Plan 3:

Attained Age	Attained Years of Service									Total			
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over
Under 25	411	299	118	12	6	3	0	0	0	0	0	0	0
25-29	\$18,474	\$16,276	\$18,879	\$23,557	\$29,298	\$28,884	\$0	\$0	\$0	\$0	\$0	\$0	\$17,941
30-34	321	428	200	46	32	74	3	0	0	0	0	0	1,104
35-39	\$18,644	\$18,920	\$21,709	\$24,801	\$27,587	\$26,009	\$24,771	\$0	\$0	\$0	\$0	\$0	\$20,332
40-44	439	484	283	89	78	258	88	3	0	0	0	0	1,722
45-49	\$18,108	\$16,296	\$19,356	\$20,230	\$21,858	\$24,111	\$30,579	\$32,286	\$30,969	\$0	\$0	\$0	\$20,725
50-54	741	915	556	286	266	1,228	737	240	107	2	0	0	5,078
55-59	\$17,998	\$15,961	\$18,451	\$20,160	\$18,453	\$22,290	\$27,974	\$35,048	\$38,198	\$42,367	\$0	\$0	\$21,553
60-64	506	721	484	255	249	1,564	1,478	466	225	8	0	0	5,956
65-69	\$18,123	\$16,955	\$17,981	\$20,514	\$19,542	\$20,861	\$23,900	\$32,447	\$36,412	\$33,984	\$0	\$0	\$22,117
70 & Over	284	427	280	121	158	959	1,604	820	269	8	0	0	4,930
Total	3,612	4,395	2,574	1,056	1,037	5,166	5,366	2,580	1,101	34	0	0	26,921
Average:	Age Service	45.2 6.8	Number of Participants:	Vested Not Vested	12,025 14,896	Males Females	5,419 21,502						\$21,988

*Salary omitted for privacy reasons

Age and Service Distribution of Active Members (Number of Actives and Average Salary)

(Continued)

*Solar or committed for privacy reasons

**Age and Service Distribution of Active Members
(Number of Actives and Average Salary)**

(Continued)

LEOFF Plan 2:

Attained Age	Attained Years of Service									Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	
Under 25	45	98	49	13	6	0	0	0	0	0
	\$39,276	\$42,845	\$48,095	\$48,309	\$58,770	\$0	\$0	\$0	\$0	\$0
25-29	89	315	284	270	210	253	1	0	0	1,422
	\$41,221	\$44,102	\$49,816	\$55,966	\$57,544	\$61,122	*	\$0	\$0	\$52,366
30-34	90	230	228	288	307	1,402	370	0	0	2,915
	\$40,819	\$45,328	\$50,987	\$55,362	\$59,406	\$62,895	\$67,659	\$0	\$0	\$59,389
35-39	32	135	103	146	154	908	1,226	282	2	2,988
	\$43,511	\$45,591	\$53,158	\$56,007	\$57,742	\$64,955	\$68,181	\$73,154	\$75,881	\$64,739
40-44	14	50	57	56	84	444	861	832	318	0
	\$40,937	\$46,906	\$51,272	\$53,730	\$57,137	\$63,462	\$69,182	\$72,307	\$77,515	\$68,568
45-49	10	19	31	30	37	217	430	545	923	0
	\$42,899	\$49,329	\$52,883	\$55,329	\$56,579	\$62,230	\$67,693	\$71,970	\$76,262	\$70,995
50-54	6	16	10	13	16	87	165	237	510	0
	\$53,416	\$56,504	\$65,292	\$52,611	\$56,003	\$63,875	\$66,285	\$70,155	\$74,218	\$70,279
55-59	1	6	3	7	5	30	50	64	115	0
	*	\$70,799	\$56,722	\$62,277	\$58,105	\$65,683	\$66,275	\$69,518	\$72,060	\$62,641
60-64	2	2	0	1	1	16	12	19	14	0
	\$30,363	\$57,019	\$0	*	*	\$61,786	\$59,488	\$68,485	\$65,950	\$0
65-69	0	0	0	0	0	2	2	2	0	0
	\$0	\$0	\$0	\$0	\$0	\$82,885	\$99,266	\$60,654	\$0	\$0
70 & Over	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	289	871	765	824	820	3,359	3,117	1,981	1,882	103
										0
										0
										0
										14,011
										\$64,347
Average:	Age	39.0	Number of Participants:			Vested	10,076	Males	12,845	
	Service	10.4	Not Vested			3,935	Females	1,166		

*Salary omitted for privacy reasons

Age and Service Distribution of Active Members (Number of Actives and Average Salary)

(Continued)

Attained Age	Years of Service										Total
	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over			
Under 25	0	1	2	3	4	0	0	0	0	0	7
25-29	0	6	0	1	0	0	0	0	\$0	\$0	\$42,240
30-34	* \$41,380	\$0	*	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$48,856
35-39	1	25	0	30	30	29	0	0	0	0	115
40-44	0	14	3	22	29	102	55	0	0	0	225
45-49	\$0	\$42,807	\$47,477	\$47,604	\$51,056	\$58,588	\$62,188	\$0	\$0	\$0	\$56,293
50-54	0	4	2	14	16	48	140	57	0	0	281
55-59	\$0	\$42,142	\$46,077	\$48,249	\$51,779	\$58,435	\$63,191	\$66,526	\$0	\$0	\$61,239
60-64	0	2	0	8	6	12	42	90	13	0	173
65-69	\$0	\$76,151	\$0	\$47,021	\$49,921	\$55,209	\$62,691	\$66,158	\$70,791	\$0	\$63,572
70 & Over	0	1	1	6	0	4	11	26	72	6	127
Total	1	52	6	84	83	200	255	183	102	37	3
Average:	Age	38.4	Number of Participants:			Vested	780	Males	959		1,035
	Service	111.9	Not Vested				255	Females	76		\$60,422

*Salaries committed for privacy reasons

Historical Data

Historical Data - PERS											
(Dollars in millions)	2002			2001 ¹			2000			1998	
	Plan 1	Plan 2/3 ²	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2	Plan 2
PERS											
Contribution Information											
Employer Rate	3.78%	3.78%	2.05%	2.05%	1.63%	1.63%	3.21%	3.21%	3.49%	3.49%	
Employee Rate	6.00%	2.63%	6.00%	1.41%	6.00%	1.05%	6.00%	1.70%	6.00%	1.49%	
Funded Status											
Credited Projected Liability	\$11,682	\$6,777	\$11,291	\$6,158	\$11,337	\$5,671	\$11,265	\$6,019	\$10,724	\$4,972	
Market Value of Assets	\$8,236	\$8,246	\$9,373	\$9,443	\$10,744	\$10,392	\$11,082	\$12,036	\$9,646	\$9,920	
Actuarial Value of Assets	\$10,757	\$10,701	\$10,990	\$11,032	\$11,111	\$10,749	\$10,456	\$11,371	\$9,219	\$9,506	
Unfunded Liability	\$925	(\$3,924)	\$301	(\$4,874)	\$227	(\$5,078)	\$809	(\$5,352)	\$1,506	(\$4,534)	
Funded Ratio	92.08%	157.89%	97.00%	179.00%	98.00%	190.00%	93.00%	189.00%	86.00%	191.00%	
Participant Data											
Number of Actives	21,737	132,448	23,981	128,955	25,833	126,428	28,168	168,214	30,374	161,476	
Total Annual Salaries	\$1,023	\$5,661	\$1,085	\$5,249	\$1,132	\$4,964	\$1,184	\$5,546	\$1,233	\$5,131	
Number of Terminated Vested	3,280	15,872	3,310	15,102	3,220	14,094	3,295	12,838	3,252	10,981	
Number of Terminated, Not Vested	7,010	77,151	8,019	76,733	7,704	71,330	7,628	64,879	7,599	57,844	
Number of Retirees and Beneficiaries	54,006	9,750	53,538	8,651	53,161	7,927	52,515	6,765	51,948	5,685	
Total Annual Benefits	\$760	\$68	\$705	\$57	\$663	\$49	\$609	\$39	\$565	\$31	
Assumptions											
Valuation Interest Rate	8.00%	8.00%	5.90%	5.90%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	
Salary Increase ³	4.80%	6.30%	3.60%	4.70%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	
Inflation	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	
Growth in Membership	1.25%	1.25%	0.94%	0.94%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	
Actuarial Experience											
Return on Market Value	(5.83%)	(6.20%)	(9.68%)	(9.80%)	0.49%	0.39%	18.28%	18.52%	14.09%	14.02%	
Return on Actuarial Value	1.60%	1.90%	2.10%	1.90%	10.20%	9.90%	16.90%	16.70%	15.50%	14.90%	
Salary Increase	5.10%	6.40%	3.90%	4.90%	6.00%	3.70%	3.70%	3.70%	3.50%	3.50%	
Inflation	3.55%	3.55%	3.75%	3.75%	3.10%	2.63%	2.63%	2.63%	3.10%	3.10%	
Growth in Membership	0.82%	0.82%	0.44%	0.44%	1.84%	1.84%	2.36%	2.36%	2.90%	2.90%	
COLA ⁴	\$1.14	3.00%	\$1.11	3.00%	\$1.08	3.00%	\$1.05	3.00%	\$0.74	3.00%	

Note: See footnotes at the end of this section

Historical Data - TRS

(Continued)

TRS	Historical Data - TRS									
	2002	2001 ¹	Plan 1	Plan 2/3 ²	2000	Plan 1	Plan 2/3 ²	1999	Plan 1	Plan 2/3 ²
Contribution Information										
Employer Rate	3.19%	3.19%	2.22%	2.22%	2.38%	2.38%	5.38%	5.38%	5.81%	5.81%
Employee Rate	6.00%	1.71%	6.00%	1.20%	6.00%	1.29%	6.00%	2.15%	6.00%	1.71%
Funded Status										
Credited Projected Liability	\$9,602	\$2,085	\$9,320	\$1,797	\$9,376	\$1,654	\$9,359	\$1,547	\$9,053	\$1,390
Market Value of Assets	\$6,962	\$2,877	\$7,985	\$3,045	\$9,805	\$3,397	\$9,002	\$3,006	\$8,292	\$2,722
Actuarial Value of Assets	\$9,366	\$3,800	\$9,342	\$3,547	\$9,372	\$3,250	\$8,696	\$2,908	\$7,819	\$2,567
Unfunded Liability	\$236	(\$1,715)	(\$22)	(\$1,750)	\$4	(\$1,596)	\$663	(\$1,361)	\$1,234	(\$1,177)
Funded Ratio	97.54%	182.25%	100.00%	197.00%	100.00%	196.00%	93.00%	188.00%	86.00%	185.00%
Participant Data										
Number of Actives	12,456	53,607	13,971	52,249	17,222	46,636	18,737	43,947	20,165	41,663
Total Annual Salaries	\$741	\$2,523	\$800	\$2,350	\$957	\$2,043	\$984	\$1,819	\$1,046	\$1,708
Number of Terminated/Vested	1,819	4,638	1,990	4,072	1,976	3,441	2,071	3,099	2,128	2,450
Number of Terminated, Not Vested	814	4,378	949	5,041	965	5,404	989	5,701	1,011	6,008
Number of Retirees and Beneficiaries	33,148	1,106	32,195	912	29,839	611	28,920	448	28,141	322
Total Annual Benefits	\$587	\$10	\$544	\$8	\$463	\$5	\$428	\$4	\$398	\$3
Assumptions										
Valuation Interest Rate	8.00%	8.00%	10.10%	10.10%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Salary Increase ³	4.80%	6.70%	6.00%	8.60%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Inflation	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Growth in Membership	0.90%	0.90%	1.13%	1.13%	0.90%	0.90%	0.90%	0.90%	0.90%	0.90%
Actuarial Experience										
Return on Market Value	(5.77%)	(6.22%)	(12.39%)	(12.67%)	12.93%	12.98%	11.78%	11.92%	16.38%	16.64%
Return on Actuarial Value	6.70%	6.50%	6.80%	6.50%	11.90%	11.70%	14.70%	14.90%	17.80%	19.20%
Salary Increase	4.40%	5.80%	4.80%	6.80%	6.40%	8.40%	1.10%	1.10%	3.90%	3.90%
Inflation	3.55%	3.55%	3.75%	3.75%	3.10%	2.63%	2.63%	3.10%	3.10%	3.10%
Growth in Membership	(0.24%)	3.70%	3.70%	1.87%	1.87%	1.38%	1.38%	1.67%	1.67%	1.67%
COLA ⁴	\$1.14	3.00%	\$1.11	3.00%	\$1.08	3.00%	\$1.05	2.63%	3%	3.00%

Note: See footnotes at the end of this section

Historical Data - SERS

(Continued)

	Historical Data - SERS									
	2002			2001 ¹			2000			1998 ²
SERS	Plan 1	Plan 2/3 ²	Plan 1	Plan 2/3 ²	Plan 1	Plan 2/3 ²	Plan 1	Plan 2/3 ²	Plan 1	Plan 2/3 ²
Contribution Information										
Employer Rate	N/A	3.64%	N/A	1.74%	N/A	1.22%	N/A	N/A	N/A	N/A
Employee Rate	N/A	2.49%	N/A	1.10%	N/A	0.46%	N/A	N/A	N/A	N/A
Funded Status										
Credited Projected Liability	N/A	\$899	N/A	\$747	N/A	\$1,091	N/A	N/A	N/A	N/A
Market Value of Assets	N/A	\$1,157	N/A	\$1,230	N/A	\$1,790	N/A	N/A	N/A	N/A
Actuarial Value of Assets	N/A	\$1,519	N/A	\$1,472	N/A	\$1,853	N/A	N/A	N/A	N/A
Unfunded Liability	N/A	(\$620)	N/A	(\$724)	N/A	(\$762)	N/A	N/A	N/A	N/A
Funded Ratio	N/A	169.02%	N/A	197.00%	N/A	170.00%	N/A	N/A	N/A	N/A
Participant Data										
Number of Actives	N/A	49,791	N/A	48,347	N/A	47,725	N/A	N/A	N/A	N/A
Total Annual Salaries	N/A	\$1,086	N/A	\$1,004	N/A	\$1,012	N/A	N/A	N/A	N/A
Number of Terminated/Vested	N/A	2,545	N/A	1,566	N/A	733	N/A	N/A	N/A	N/A
Number of Terminated, Not Vested	N/A	3,553	N/A	2,717	N/A	1,461	N/A	N/A	N/A	N/A
Number of Retirees and Beneficiaries	N/A	622	N/A	269	N/A	27	N/A	N/A	N/A	N/A
Total Annual Benefits	N/A	\$3	N/A	\$1	N/A	\$0	N/A	N/A	N/A	N/A
Assumptions										
Valuation Interest Rate	N/A	8.00%	N/A	5.90%	N/A	N/A	N/A	N/A	N/A	N/A
Salary Increase ³	N/A	6.20%	N/A	3.40%	N/A	N/A	N/A	N/A	N/A	N/A
Inflation	N/A	3.50%	N/A	3.50%	N/A	N/A	N/A	N/A	N/A	N/A
Growth in Membership	N/A	1.25%	N/A	0.94%	N/A	N/A	N/A	N/A	N/A	N/A
Actuarial Experience										
Return on Market Value	N/A	(6.26%)	N/A	(8.66%)	N/A	N/A	N/A	N/A	N/A	N/A
Return on Actuarial Value	N/A	2.90%	N/A	2.50%	N/A	N/A	N/A	N/A	N/A	N/A
Salary Increase	N/A	6.30%	N/A	3.40%	N/A	N/A	N/A	N/A	N/A	N/A
Inflation	N/A	3.55%	N/A	3.75%	N/A	N/A	N/A	N/A	N/A	N/A
Growth in Membership ⁴	N/A	2.99%	N/A	1.30%	N/A	N/A	N/A	N/A	N/A	N/A
COLA	N/A	3.00%	N/A	3.00%	N/A	N/A	N/A	N/A	N/A	N/A

Note: See footnotes at the end of this section

Historical Data - LEOFF

(Continued)

	LEOFF (Dollars in millions)	Historical Data - LEOFF						1998	
		2002	Plan 1	Plan 2	2001 ¹	Plan 1	Plan 2	2000	Plan 1
Contribution Information									
Employer Rate	0.00%	3.84%	0.00%	3.03%	0.00%	2.41%	0.00%	3.46%	6.00%
State Rate	0.00%	2.57%	0.00%	2.02%	0.00%	1.61%	0.00%	2.31%	0.00%
Employee Rate	0.00%	6.41%	0.00%	5.05%	0.00%	4.02%	0.00%	5.77%	6.00%
Funded Status									
Credited Projected Liability	\$4,265	\$1,937	\$4,160	\$1,668	\$4,010	\$1,528	\$4,136	\$1,408	\$3,917
Market Value of Assets	\$4,060	\$2,136	\$4,578	\$2,210	\$5,260	\$2,378	\$5,460	\$2,288	\$4,780
Actuarial Value of Assets	\$5,095	\$2,646	\$5,369	\$2,576	\$5,440	\$2,459	\$5,150	\$2,163	\$4,568
Unfunded Liability	(\$830)	(\$709)	(\$1,209)	(\$907)	(\$1,430)	(\$931)	(\$1,014)	(\$755)	(\$663)
Funded Ratio	119.45%	136.62%	129.00%	154.00%	136.00%	161.00%	125.00%	154.00%	117.00%
Participant Data									
Number of Actives	1,147	14,011	1,315	13,585	1,499	13,133	1,743	12,713	1,986
Total Annual Salaries	\$80	\$902	\$87	\$831	\$95	\$780	\$106	\$725	\$117
Number of Terminated Vested	22	376	29	303	31	248	40	216	61
Number of Terminated, Not Vested	90	1,137	94	1,051	92	940	93	875	96
Number of Retirees and Beneficiaries	7,987	244	7,894	184	7,780	143	7,623	100	7,434
Total Annual Benefits	\$262	\$3	\$248	\$2	\$235	\$2	\$221	\$1	\$209
Assumptions									
Valuation Interest Rate	8.00%	8.00%	5.90%	5.90%	8.00%	8.00%	7.50%	7.50%	7.50%
Salary Increase ³	4.50%	7.80%	4.40%	5.80%	4.00%	4.00%	4.00%	4.00%	4.00%
Inflation	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Growth in Membership	1.25%	1.25%	0.94%	0.94%	1.25%	1.25%	1.25%	1.25%	1.25%
Actuarial Experience									
Return on Market Value	(5.88%)	(6.31%)	(9.65%)	(9.77%)	0.49%	0.37%	18.34%	18.54%	14.11%
Return on Actuarial Value	(0.30%)	0.10%	2.10%	2.00%	10.20%	9.80%	17.00%	16.60%	15.50%
Salary Increase	4.40%	7.00%	2.50%	4.60%	2.50%	5.90%	3.90%	3.90%	5.00%
Inflation	3.55%	3.55%	3.75%	3.75%	3.10%	3.10%	2.63%	2.63%	3.10%
Growth in Membership	1.73%	1.73%	1.83%	1.83%	1.22%	1.22%	4.33%	4.33%	1.04%
COLA ⁴	3.55%	3.00%	3.75%	3.00%	3.10%	3.00%	2.63%-3%	2.63%-3%	3.10%

Note: See footnotes at the end of this section

Historical Data - WSP

(Continued)

WSP (Dollars in millions)	2002						1998					
	2001 ¹		2000		1999		Plan 1		Plan 2		Plan 1	
	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2
Contribution Information												
Employer Rate	0.00%	N/A	0.00%	N/A	0.00%	N/A	0.00%	N/A	0.00%	N/A	0.00%	N/A
Employee Rate	2.00%	N/A	2.00%	N/A	2.00%	N/A	2.00%	N/A	7.00%	N/A	7.00%	N/A
Funded Status												
Credited Projected Liability	\$508	N/A	\$483	N/A	\$468	N/A	\$417	N/A	\$392	N/A	\$392	N/A
Market Value of Assets	\$551	N/A	\$608	N/A	\$688	N/A	\$702	N/A	\$602	N/A	\$602	N/A
Actuarial Value of Assets	\$689	N/A	\$712	N/A	\$712	N/A	\$622	N/A	\$576	N/A	\$576	N/A
Unfunded Liability	(\$180)	N/A	(\$229)	N/A	(\$244)	N/A	(\$246)	N/A	(\$184)	N/A	(\$184)	N/A
Funded Ratio	135.49%	N/A	147.00%	N/A	152.00%	N/A	159.00%	N/A	147.00%	N/A	147.00%	N/A
Participant Data												
Number of Actives	1,035	N/A	1,027	N/A	1,013	N/A	968	N/A	929	N/A	929	N/A
Total Annual Salaries	\$63	N/A	\$60	N/A	\$58	N/A	\$56	N/A	\$51	N/A	\$51	N/A
Number of Terminated/Vested	33	N/A	26	N/A	21	N/A	15	N/A	14	N/A	14	N/A
Number of Terminated, Not Vested	17	N/A	14	N/A	12	N/A	9	N/A	7	N/A	7	N/A
Number of Disabled Members ⁵	62	N/A	63	N/A	63	N/A	67	N/A	68	N/A	68	N/A
Number of Retirees and Beneficiaries	718	N/A	696	N/A	672	N/A	647	N/A	612	N/A	612	N/A
Total Annual Benefits	\$24	N/A	\$22	N/A	\$20	N/A	\$19	N/A	\$17	N/A	\$17	N/A
Assumptions												
Valuation Interest Rate	8.00%	N/A	5.90%	N/A	8.00%	N/A	7.50%	N/A	7.50%	N/A	7.50%	N/A
Salary Increase ³	7.10%	N/A	5.10%	N/A	4.00%	N/A	4.00%	N/A	4.00%	N/A	4.00%	N/A
Inflation	3.50%	N/A	3.50%	N/A	3.50%	N/A	3.50%	N/A	3.50%	N/A	3.50%	N/A
Growth in Membership	1.25%	N/A	0.94%	N/A	1.25%	N/A	1.25%	N/A	1.25%	N/A	1.25%	N/A
Actuarial Experience												
Return on Market Value	(5.99%)	N/A	(9.68%)	N/A	0.46%	N/A	18.36%	N/A	14.12%	N/A	14.12%	N/A
Return on Actuarial Value	(0.20%)	N/A	2.10%	N/A	10.10%	N/A	16.90%	N/A	15.40%	N/A	15.40%	N/A
Salary Increase	5.20%	N/A	3.90%	N/A	3.80%	N/A	7.20%	N/A	6.50%	N/A	6.50%	N/A
Inflation	3.55%	N/A	3.75%	N/A	3.10%	N/A	2.63%	N/A	3.10%	N/A	3.10%	N/A
Growth in Membership	0.78%	N/A	1.38%	N/A	4.65%	N/A	4.20%	N/A	0.22%	N/A	0.22%	N/A
COLA ⁴	3.00%	N/A	3.00%	N/A	2.00%	N/A	2.00%	N/A	2.00%	N/A	2.00%	N/A

Note : See footnotes at the end of this section

Footnotes for Historical Data Section

¹For the 2001 valuation, the salary, interest, and growth rates were not annualized. They reflect the actual valuation period of nine months (15 months for TRS).

²Plan 3 members do not contribute to the defined benefit plan

³Based on the assumption for prior year's CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items

⁴PERS 1 & TRS 1 are paid a Uniform COLA. Amounts are \$/month/year of service. Two gain sharing payments were made: \$0.10 on 7/1/1998, and \$0.28 on 1/1/2000.

LEOFF 1 COLA is exactly the CPI. All others are based on the CPI, subject to a 3% maximum per year.

⁵WSP Disability Benefits are provided outside of pension funds

Glossary

Actuarial accrued liability: Computed differently under different funding methods, the actuarial accrued liability generally represents the portion of the present value of fully projected benefits attributable to service credit that has been earned (or accrued) as of the valuation date.

Actuarial gain or loss: Experience of the plan, from one year to the next, which differs from that assumed will result in an actuarial gain or loss. For example, an actuarial gain would occur if assets earned 10% for a given year since the assumed interest rate in the valuation is 8%.

Actuarial value of assets: The value of pension plan investments and other property used by the actuary for the purpose of an actuarial valuation (sometimes referred to as valuation assets). It is common for actuaries to select an actuarial valuation method that smoothes the effects of short-term volatility in the market value of assets.

Normal cost: Computed differently under different funding methods, the normal cost generally represents the portion of the cost of projected benefits allocated to the current plan year. The employer normal cost is the total normal cost of the plan reduced by employee contributions.

Present value of credited projected benefits: The actuarial accrued liability computed under the Projected Unit Credit (PUC) funding method.

Present value of fully projected benefits: Computed by projecting the total future benefit cash flow from the plan, using actuarial assumptions (i.e., probability of death, retirement, salary increases, etc.), and then discounting the cash flow to the valuation date using the valuation interest rate.

Projected Unit Credit (PUC) Funding Method: The PUC funding method is a standard actuarial funding method. The annual cost of benefits under PUC is comprised of two components:

- Normal cost; plus
- Amortization of the unfunded actuarial accrued liability.

The PUC normal cost is the estimated present value of projected benefits to be earned in the current plan year.

Unfunded actuarial accrued liability: The excess, if any, of the actuarial accrued liability over the actuarial value of assets. In other words, the present value of benefits earned to date that are not covered by plan assets.

Given number 17 0540.0 = 22.92

distance (q) = $r' \cdot \cos. \frac{2}{2} v'$, or

fractions. We have

Log. cos. $\frac{2}{2} v'$ = 2.8825654

elsewise Log. r' = 19.62513680

$$\log \frac{16}{r'} = \log \frac{0.07086943}{0.07086943} = 1$$

$$\log \frac{16}{r'} = \log \frac{189.6960002}{0.4966525} = 3.07086943$$

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